

# THE METROPOLITAN.

OCTOBER, 1838.

## LITERATURE.

### NOTICES OF NEW WORKS.

*Arboretum et Fruticetum Britannicum; or, the Trees and Shrubs of Britain, Pictorially and Botanically Delineated, &c. &c.; with their Propagation, Culture, Management, &c.* By J. C. LOUDON.

All Mr. Loudon's books are useful and excellent. In this work are exhibited all the varieties of shrubs and trees in the kingdom, which are illustrated in upwards of 2,500 wood-cuts. To the landed proprietor, and to all, in short, who desire an acquaintance with vegetation, this book will be a valuable assistant. Every information connected with the subject is given in detail, and the volumes may therefore be considered as a perfect mine for reference, and as a most valuable addition to natural history.

The practical instructions about soils, planting, transplanting, multiplying, &c., are admirably clear and intelligible, and, no doubt, will be found equally correct and useful by those who adopt them. By the aid of this book, and a little study and practice, any gentleman may learn to give the greatest beauty to his grounds, be they a spacious park, or merely a shrubbery and plantation of two or three acres. The proper diffusion of the kind of knowledge imparted by Mr. Loudon will immeasurably improve the general aspect of the beautiful country we live in. What we more especially want are a variety of tall evergreen trees, and an increased planting, in all directions, of the Oriental plane, one of the richest, most picturesque, and poetical of trees. The plane-tree we have at present is the ill-shaped, graceless, American species, which has never got *acclimaté*. Mr. Loudon asserts that the plane of Western Asia will, on the contrary, grow as well in England as in its native climate. We will bless his name, and enregister it among the benefactors of his country, if he be the means of making its propagation general.

Among the many useful things in the volumes there is the market price at which the different species of trees and shrubs can be purchased. Among the amusing portions is a deal of poetical, traditional, and legendary matter, wherein, if we mistake not, we recognise the hand of one who was, or who might have made herself, one of the best female writers of these times.

In every respect the "*ARBORETUM ET FRUTICETUM BRITANNICUM*" is an admirable work, and one that we can most earnestly recommend.

*Aristomenes. A Grecian Tale.*

Aristomenes, it will be recollected, figures in early Grecian history as a general in the first Messenian war, which commenced B.C. 743, and lasted nineteen years. This victorious commander was the first to rouse his countrymen to a sense of their degradation; and by his skill and enterprise they were enabled to throw off the yoke of the Spartans, under which they had so long laboured. With these materials, and some trifling additions, an entertaining and instructive tale has been produced. Of Greece, in general, at this early period, the author says—

“The abolition of monarchy in Greece, soon after the Trojan war, was, singular as it must appear, a means of promoting the intellectual power of the people, though attended by many temporary evils. To trace the formation of natural or individual character is a difficult task; yet it is quite evident that Greece owes all its glory to a sudden change in the form of its government at an early period of its history. When the authority of kings was used to promote licentiousness, and to retard the progress of virtue—when kings themselves followed the dictates of ambition and avarice, trampling upon the liberties of the subject,—the patrician and plebeian rose together to shake off the yoke of oppression. A vicious monarchical government thus fell lifeless in every Grecian state, except Sparta, before the independent and illustrious virtue of the people. The evils immediately following were great; but as they were only produced by the excitement resulting from a sudden change, a more healthy state of public feeling quickly succeeded, and developed itself in acts of valour and magnanimity which established the national sovereignty in arms, arts, and literature.”

Although classical tales are proverbially difficult to write, and very hard to read, Aristomenes will stand a good chance of popularity. The style is simple, straightforward, and nervous. The author trips now and then in his costume and classicalities, but, on the whole, the story is in keeping, and the ancient Greek tone well preserved. We should deem him a person likely to do much better things. He has a fine vein of moral feeling. Some of his occasional reflections on the hopes and destinies of men are true and beautiful, and beautifully expressed. We would recommend him to choose his subjects nearer home and our own times, for people are as apt to exclaim now, as in the days of that *very French* Horace,

“Qui nous delivra des Grecs et des Romains?”

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*Cogitations of a Vagabond, by Authority of the King's Commission, during the Occupation of Paris and subsequently. Collected by the Author of “Frank Orby.”*

Under this rather strange title the author discourses upon the military operations in France from the return of Napoleon Buonaparte from Elba to the re-establishment of the Bourbons, dotting his serious theme, as he goes along, with all kinds of quirks and quiddities.

“Travellers,” he says, “have been often described, and their objects applauded or sneered at, according to the fancy or tastes of readers. It would appear that these interesting vagabonds in the progress of time change their character; the old species disappear, and new seedlings start from the soil. Sterne describes the travellers of his day, as divided into the idle, the inquisitive, the lying, the proud, the splenetic, and the sentimental; of these, only the first two at present exist. Lying, now-a-days, is quite *hors de combat*; no person will take the trouble of inventing what can be so easily proved to be untrue. The proud and splenetic seldom give vent to their bile

in travelling, because nobody cares for them. As to sentimental travellers, I do not believe that such an animal ever existed, and that Larry Sterne's pretensions to that distinction were all fudge, or mere affectation. . . . The varieties of travellers now-a-days are as great as those of geraniums, strawberries, or apples. A few specimens of misanthropy, and its antithesis; geologists, with endless numbers of all other *ologists*, antiquarians, classical tourists, and a whole budget of sketchers, who have prowled into every dark avenue of the continental towns to paint a rickety garret, stuck on to the walls of a cathedral, or a dirty old woman in a picturesque night-cap, dabbling in a wash-tub. There are the utilitarians, the men of statistics, speculators in railways and steamboats; others who go abroad for the purpose of gambling, and a species of traveller which Yorick never dreamt of in his philosophy—a man running over a given quantity of foreign land and water, to qualify him for admission to a club. Then there is the whole tribe of bookmakers, male and female, who have not left a spot in Europe untouched, have gradually migrated to Asia and America, and, unless there be discovered in this age of invention some method of getting to the moon or planets, there will be nothing left for travellers to write about."

This is all very well in its way, but if we can only look for novelty from such an invention, we may look long enough. But it is our belief that novelty is to be found everywhere by those who know how to look for it. The very ground chosen by the author has been trodden over and over again in all sorts of ways; yet he has contrived to give an air of novelty to many things in it. His travelling days were stirring times, and as such will ever be remembered with enthusiasm—will ever form the subject of debate and controversy, and serve to paint a moral and adorn a tale. In the present work there is much to interest the general reader, interspersed as it is with numerous anecdotes, and no person, we should think, will regret the time bestowed upon its perusal. There is, as usual in such flying moralists, a too confidential tone pervading the remarks, though they are often given in an off-hand, sensible manner, that is creditable to the author. A few brief extracts must suffice. Speaking of the *Hôtel des Invalides* as an asylum for wounded and disabled seamen, similar to our own Chelsea Hospital, he says—

"I have often thought, that had I been placed in similar circumstances, and had merited a pension, how much more I should have preferred having my shilling a day to do what I like with, and go where I pleased, to be locked up in a palace, and regularly fed, and put to bed, like an animal in a menagerie; in place of repeating a twenty-times-told tale to the same circle of acquaintance, or listening to theirs, to wander about in search of relations, or long-lost friends, settled in trade or business, and to their attentive ears give the history of a chequered life, and fight my battles o'er again."

However admirable and imposing to the imagination are *Les Invalides*, Chelsea, Greenwich, the inmates of those palaces for the poor servants of the country are far from enjoying the average amount of human happiness, and we believe that our author has hit upon some of the causes of this. But the real great cause, as indicated by a recent writer, is, that the pensioners have *nothing to hope or fear*, want occupation, are alone in a crowd, friendless among multitudes, desolate in the midst of worldly comfort.

Some of our author's reflections on the Russian troops are excellent, and, to our own knowledge, correct. We shall mention, however, that we have seen some Russian regiments—not of the guards, but line—that were above the standard height of *most* European nations. As for the crack regiments of the guards, horse as well as foot, they are giants—the tallest men we ever saw under arms, but *not* the best made. All are slow—very slow, yet not slovenly, but rather over-precise in their manœuvres. After alluding to the grand review got up by the Emperor Alexander in the plains of Champagne in 1815, when it was remarked



that a British or French army would have danced round the Muscovites during the formations, the author goes on to say—

“The Russians have some good qualities as soldiers; they are easily fed and lodged, are patient of hardships, and *immovable* under the *heaviest fire*. They are not, however, well calculated (the infantry I mean) for aggressive movements. The tallest and best made men are generally selected for the guard and cavalry: the general run of the infantry is *far below the standard of other European nations*. . . . They are clothed in thick warm coats, suited to their climate, but very heavy; and their arms and accoutrements are of the same kind, useful but ponderous. They are, in a measure, physically unfit for very rapid movements, and the soldiers are, besides, wanting in *individual intelligence*, so that, once broken or put into confusion, it is next to impossible to bring them into shape again. The Russian armies also labour under two heavy disadvantages—their medical staff and appliances are very defective, and the commissariat absolutely *nil*. Frugal as they are, a Russian army would have absolutely starved in Spain. The military resources and power of Russia have of late been the subjects of much discussion in this country, and, as usual, where information is difficult to be obtained, reports and statements are liable to great exaggeration. The progress of that people depends more on their intrigues, and the apathy of the other nations of Europe, than in anything they possess as a military power. More than another age will elapse before she can compete in the field with the nations of Europe, principally from the causes I have stated above. In confirmation, I would point out, that nearly all the actions in which the Russians have gained, or nearly gained, success, have been those in which there was the least occasion for manœuvres; Trebbia, Prussish Eylau, Borodino, Malo Jaroslavitz, were all fought in defensive positions. Leipsic was an offensive action, but it scarcely differed from the others, inasmuch as there were no movements required; it was a fight in a cock-pit. Russia could not have taken an active part in the invasion of France, if English money had not put her armies into motion, both in the campaigns of 1814 and 1815. When left to herself, after the experience gained in these wars, what a poor figure she cut in her attack on Turkey! She lost the first campaign, with one hundred thousand men, and would never have passed the Balkan, opposed by any other enemy than the degenerate Turks. Even now, we see this so called mighty empire held at bay by a handful of brave mountaineers of by Circassia.”

Our author saw Sir Walter Scott in the gallery of the Louvre during the infliction of “the great moral lesson;” that is, the packing up and restoring to their owners in Italy all the glorious pictures and statues which the French republicans and Buonaparte had taken *par le droit du plus fort*; and this meeting with Sir Walter leads to a mention of an amusing mistranslation from the ballad of Bessy Bell and Mary Gray, quoted in one of the novels.

“Bessy Bell and Mary Gray,  
They were twa bonnie lasses,  
They bigged themsels a bonny wee house,  
And stickit it o’er wi’ rashes.”

Which the Frenchman rendered—“Bessy Bell et Mary Gray étaient deux jolies filles; elles se battirent une petite chaumière, *et en chassèrent les importuns*.” The *rashes* were a stumbling-block, but he came to a conclusion that they were rash, troublesome lovers; and that *stickit* meant thumping.

Our vagabond is very hard upon French faces and busts, but he does justice to the legs of the Parisians. Upon this subject he is also very philosophical.

“The legs are, however, in general very good. This I have heard attributed to the badness of the *paré* in Paris, which obliging the dear creatures to walk always tiptoe, strengthens the muscles of the calves of the legs, and makes the ankles fine and well formed. This most people who have walked the streets in the French metropolis can vouch for, as the ladies are not at all chary about showing their legs.



I walked once through a very dirty street ; there was a well-dressed female in front of me. Her drapery was tucked up not far from the order of the garter, and although the street was nearly floating in mud, there was not one speck on either of the white stockings that were delighting my vision. They have since constructed *trottoirs* (footways) along the sides of the principal streets, which will allow people to walk on the soles of their feet. I hope they will not deteriorate the ladies' legs."

We shall not widely depart from the spirit of our vagabond's arrangement, if from ladies' legs we proceed to Prince Talleyrand.

"It was the peculiar talent of Prince Talleyrand to catch a view of these before the rest of the world, and he might have been, with great reason, called a political prophet. He not only saw what was likely to happen, but had the tact to profit by the events when they took place. It has been somewhat exaggerated to say that he had the talent to steer clear of all the changes of the revolution. He certainly cleverly adapted himself to the successive changes that took place latterly, but there was a period when all his abilities would not have saved him had he remained in France. He very wisely took French leave of absence for a considerable period, and, to help him to pass the time, married another's man's wife, about whom so many ridiculous stories have been told. Notwithstanding his various connexions with republicans, and their forms of government, there was not a higher aristocrat in Europe than the Prince of Benevento, of which nearly his last words were a strong proof. When the king visited him in his last illness, he said it was the greatest honour his house had ever received."

Our vagabond is very much of a gentleman, and one given to reflection. All that he says about the state and prospects of France is well worthy of attention. And here we should observe, that he has been in the habit of visiting the capital and some of the provinces frequently since the time of the military occupation. His last visit seems to have been quite recent, and he draws what appears to us a correct comparison between the condition of the country in 1815 and its present condition. On the whole, this parallel is very encouraging. There is much to do, and there are some grand obstacles to remove ; but the French are evidently in the right way, and another quarter of a century of peace and good understanding with their neighbours will work wonders.

Most of our readers must have heard of the *asphalte*, or bitumen pavement. Here is what our author says on the subject.

"They have lately laid down a pavement or road in the neighbourhood of *les Champs Elysées*, consisting of blocks laid on sand, and the interstices filled up with *asphalte* or bitumen. This has been found to answer very well, and a good road is such an entire novelty, that it has put all the Parisians in a fancy for this natural production. Twenty companies have been formed for working *asphalte*, and all the papers contain advertisements to that effect. It will be rather curious, if the usage becomes general, that we should be so long before taking advantage of a practice of such great antiquity. Pliny mentions that the walls of Babylon were cemented with this fluid. It has always been the custom in the Balearic Islands to construct the houses first, and then pour in a bituminous fluid, called *guiche*, which in a few days becomes as hard as stone. If this bituminous fancy continues, it ought to be of benefit to the land-owners in Trinidad, where there are lakes of some extent of this substance."

In the next extract the observations of a military man on railroads, as means of war, are entitled to notice. It has always appeared to us that railroads must be rather valuable as means of preventing war by rapidity of communication and an increased friendly intercourse, than as means of active hostility.

"The railroads next struck the fancy of our Gallic neighbours, and they have entered into the projects with the greatest enthusiasm. Their heated fancies could not be satisfied with one line to commence with, they must have a *grand réseau* to

cover all the territory of France. It serves to show the military bias of the French, that one of the principal, and indeed the first, advantage of railways pointed out by the speakers on both sides, would be the rapidity with which armies could be despatched to the frontier. This, however, is somewhat problematical. A hired emissary might, in the night, stop the march of troops by very simple means. It would appear that the powers of steam, applied to warfare, are rather limited; there can be no fighting steam-vessels, unless they are made shot proof, and railways on the continent would always be liable to destruction, either by spies in the country, or incursions of light troops. A pickaxe, or a few ounces of gunpowder, would impede all locomotion in a very short time. The French had better then set about putting their high roads into good order, and if this bituminous cement answers, they will have internal means of communication which they never possessed before. They are beginning to be aware of the value of putting one part of the country in contact with another, and are 'now looking up' their old canals to make them available. When they have done all this, they will turn to general commerce, and take more liberal views of that subject. There are many men who understand the principles of reciprocity in trade, but the mass is still full of prejudices. They can neither believe that our abolition of the slave-trade is effected on principles of philanthropy, or that we have not some secret object in reserve for our particular benefit. They are ultra on the idea of encouraging their manufactures *coute qui coute*;—the whole of the projected railroads could be laid down with iron from England at one third of the expense; but no, they must bolster up the iron trade at home, although, from physical reasons, it is quite impossible it should be ever able to compete with ours. We have lowered the duties on their wines, and the only thing they have done in return is to admit into the northern ports British coal (they could not do without.) A bottle of porter costs two francs in Paris, and a bottle of French brandy in England seven shillings; being, in both cases, five times the intrinsic value of the things, and this is called protecting home manufactures. It protects humbug."

We have been wonderfully tickled by the following little anecdote. Never was anything more French than this Frenchman's answer. The convenience of the footpaths in London being pointed out to a Frenchman, he said, "*Oui, c'est assez joli; mais pour moi j'aime la totalité de la rue.*"

We will take our leave of this little volume, which merits far more attention than it is likely to meet, with another interesting passage about internal communication.

"Even now (1838) there is no improvement. In a recent discussion in the Chamber of Deputies, one of the ministers stated that the great high-road between Chalons and St. Menchould was nearly impassable, and to confirm it, another member stated, that if a carriage was upset on this route there would be no danger of breaking the window-blinds, the mud was so soft and fluid. It was also acknowledged at the same time that the road from Bordeaux to Bayonne, across the great *Landes*, had been impassable these last fourteen years. Such being the deplorable state of the roads, it is little wonder that the French should seize with avidity all the railroad projects offered to them, and, with their naturally sanguine feelings, imagine their country all intersected with works of this kind, of which they see an epitome in the newly-made railway to St. Germain and Versailles. But they are, as I have said, at once at issue with the government as to the mode of effecting their object. In this respect the ruling powers in France are very different from our own. With us, government will have nothing to do with anything unless it pays them, or, in the official phrase, yields revenue; while the government of our neighbours wish to interfere everywhere. In this affair, however, of the railroads, there is a slight approximation, as the government chose for its own share the most profitable line, that from Paris to Brussels, with a branch to Calais,—probably the only one that will ever pay. They have been defeated in their object, but had they succeeded, it would have been very hazardous to have formed any conjecture with regard to the time it would have been completed in. I have shown that thirty years were required to build a stone arch, within a mile of Paris; it may from thence be probably calculated how long it would take to run a railway for two hundred miles."



*The Shajrat ul Atrak, or Genealogical Tree of the Turks and Tatars.*  
Translated and Abridged by COLONEL MILES.

A valuable contribution to Eastern history—a guide which Gibbon would have delighted to have had when engaged in the composition of some of the grandest and most perfect chapters of his wondrous work. The *Shajrat ul Atrak* appears to have been copied from the compilation of Turkish or Mogul history made by order of Alugh Beg Mirza. Colonel Miles's translation seems to be done with unusual care and elegance. The way in which he preserves the oriental style and character is really admirable. We are occasionally puzzled by his odd way of spelling the names of eastern places and people; and cannot help wishing that some fixed and unvarying standard, like that recommended by the high authority of Mr. Lane, could be adopted.

The traditional portion of this oriental history is not the least interesting part of it. It appears to be chiefly a fanciful variation of the narrative in our Old Testament.

"It is related," says the annalist, "that Cain for a long time, not knowing what to do with the body of Abel, carried it about with him, till one day he arrived at a place where two ravens were fighting; and one being killed, the living one hid him beneath the earth—and this taught Cain to bury his brother Abel. Until this period, Adam did not know what death was; but when he became aware of its nature, he wept bitterly, and in his grief composed certain verses in the Syriac language, and the learned have translated them into the Arabic verses—'Death will change and destroy cities, and those governing them, and disfigure the face of the earth. It will change everything possessing colour or nourishment, and even the divine countenance of man is nought but corruption. Great is my grief for my son Abel—he is slain and laid in his narrow grave.' Iblis (*Satan*) after this persuaded Cain that fire was angry with him because he did not prostrate himself before it: that if he did, fire would be satisfied, and his sacrifice would burn. These words threw Cain into doubt and perplexity, and he at length offered his adorations to fire. *Murder and fire-worship are, therefore, derived from Cain.* And whoever commits these crimes hereafter, one register of them will be entered against Cain, and one against the perpetrator, and at the last day they shall receive their appropriate punishment."

In the narrative of merely mortal affairs, the author of the "*Shajrat ul Atrak*" is simple and clear, not without an occasional touch of grandeur. Armies of half millions each sweep across the stage in all the pomp of the Orient, and every conqueror pretends to be an instrument of Fate, and every vanquished king exclaims—"It is the will of God!"

The following passage about the introduction of bank-notes, or paper-money, by the Tatar conquerors of Persia in the fourteenth century, is curious.

"In the year of the Hejira 693, the use of *jade* or stamped paper-money was introduced into Persia, but subsequently abolished. It is related in the histories of those times, that stamped paper to serve as current money was first introduced in commercial transactions in Persia by the advice of Ab-ud-deen Muzzaffar: these notes were long slips of paper, stamped on both sides with the arms or seal of the prince, and on both sides also were written the profession of faith, and the names of two witnesses, and between them the names of the king of kings. But by the introduction of these *jades*, the resort of merchants to Persia was interrupted, and the buying and selling of all merchandise stopped; and so the Emeers assembled and represented these things to the king of kings, and he ordered his *jades* to be abolished."

In China the Tatars had introduced the use of paper-money as early, at least, as A.D. 1240. In multiplying bank-notes out of all proportion, our Mr. Pitt only imitated that illustrious potentate Jin-Tsong, of the dynasty of Kiu, emperor of China, and kinsman of the Sun and Moon.



Thus there is nothing new under the sun—nothing new even in Pitt's strange system of finance, always excepting his taxing the blessed light of heaven! The forgery of a bank-note in China was visited with death as with us, and as the Chinese notes were as easily imitated as our own, the Old Bailey of Pekin could make out as respectable a list of executions as the Old Bailey of London—in the good old times!

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*An Abridged Account of the Misfortunes of the Dauphin, followed by some Documents in support of the Facts related by the Prince; with a Supplement.* Translated from the French by the HON. and REV. C. G. PERCIVAL, Rector of Calverton, Bucks.

When we reflect on the measureless credulity of the world, or of a very large part of it, we are perfectly astonished at the small number of impostors that are in it. Surely these rogues are over-modest, or they lack courage, and a proper acquaintance with their profession. If recently, upon the demise of the great Thom, any well-informed juggler had taken upon himself to do the resurrection part of his business, and given himself out for Thom risen from the dead, after a complete digestion of the musket bullet or bullets, we have no doubt whatever that he would have found some dupes. The slightest personal resemblance would have been enough to serve that purpose, or to establish an identity; for it is not unreasonable to expect that sometimes all changes must be produced in a man's person by death and burial.

There are probably few of our readers that have not heard of sham dauphins, or vagabonds pretending to be the son and heir of the unfortunate Louis XVI. These fellows have been everywhere! Not long ago there were three of them at once in London. The boldest of them used to parade his rags and tatters in Leicester Square; and the last time we saw his *soi-disant* royal highness, he had no shoes or stockings to his feet. We might say of dauphins as Coleridge once said of ghosts—that he had seen too many of them to believe in their real existence. The French government, at different times, has taken the trouble of exposing some half dozen of these miserable Perkin Warbecks, sending them afterwards to prison or the bagnio; but it has never been able to put a stop to the speculation. The most remarkable of these adventurers was the prisoner of Milan in 1821, who is described by Silvio Pellico, and of whom some further account may be found in a curious little work, published some two years ago, under the title of "The Book of Table Talk." This pretender (whose pretensions led him to an Austrian state prison) was a man of most elegant manners, highly educated, and strikingly like the Bourbon family. His story was consistent, and indeed perfectly convincing, to all persons of a lively imagination, who could forget that the death of the real dauphin in the Temple was a fact as well proved as that of his father being beheaded in the *Place Louis XV.* But, indeed, there is not one of the dauphin-stories we have heard of, but is incomparably better than the one now set forth by this honourable and reverend English gentleman, whose reasoning upon the subject is, if possible, more lame than the story itself. The honourable and reverend gentleman disavows all political motives and designs whatever, and protests that he has not the most distant intention of overthrowing the present dynasty of France. *Certes*, that very weak and helpless sovereign, Louis Philippe, ought to be very much obliged to him! And yet, upon looking into the matter, we find that the honourable and reverend gentleman is rather restrained by the want of a proper feeling for legitimacy in this country, than by any fixed principles of his own. England, he says, has for many years done

her utmost to discountenance the cause of legitimacy in every part of the world!—which can only mean that she has not given the light of her countenance to the very doubtful claims of Don Carlos and Don Pedro—and therefore she is not likely to take up arms for the purpose of placing his *protégé* on the French throne. Thus Louis Philippe's gratitude is rather due to the English nation or government than to Mr. Percival personally.

There are many stories of imposture which have at least the merit of being romantic and amusing, after the fashion of the lady novels of the last generation, wherein heirs and heiresses were lost and found in the most complicated manner possible, and stray heroes and heroines were recognised not only by their affectionate families, but also *in law*, by their having a strawberry mark behind the ear, or a cherry upon the arm. But there is little amusement of the kind in the big book before us, which contains 714 royal octavo pages, 577 of which are occupied by dry "Documents and Reflections." "None of your reflections, Mrs. Quickly, if you love me; they only give me the spleen. Tell me your history at once. I love stories, but hate reasoning." The honourable and reverend gentleman's reasoning is what we have described it—the documents prove as little as his reasoning, and are insupportably tedious. If this adventurer is to come off with *eclat*, it is not this book that will brighten his face.

A part of the story is wild and improbable enough; but it is jointed, and put together without art, and the incidents savour of the Newgate Calendar. We will give a few passages bared of the reflections and reasonings. His Royal Highness the Dauphin and Duke of Normandy speaks. He is in the Temple, up in the third story, closely watched day and night by the municipal guard.

"Consequently, as it was impossible to get me out of the tower, they resolved to conceal me in it, to make my persecutors believe that I had escaped. The idea was a bold one: nevertheless it was the only means of facilitating the escape which they had planned. Nothing was more practicable than to make me disappear for the moment. No one escorted those who carried down to the first floor the things of which I had made use. My friends were therefore convinced that they would be able to take me up higher without any risk of being discovered. In fact, though my sister was confined in the third story, she had at that time neither sentinel nor municipal officers for her guard. This expedient afforded almost certain prospects of success. Accordingly, one day my protectors gave me a dose of opium, which I took for medicine, and I was soon half asleep. In this state, I saw a child, which they substituted for me, in my bed, and I was laid in the basket, in which this child had been concealed, under my bed. I perceived, as if in a dream, that the child was only a wooden figure, the face of which was made to resemble mine. This substitution was effected at the moment when the guard was changed; the one who succeeded was contented with just looking at the child to certify my presence, and it was enough for him to have seen a sleeping figure, whose face was like mine; my habitual silence contributed farther to strengthen the error of my new argus. In the mean time, I had lost all consciousness, and when my senses returned I found myself shut up in a large room, which was quite strange to me; it was the fourth story of the tower. This room was crowded with all kinds of old furniture, among which a space had been prepared for me, which communicated with a closet in the turret, where my food had been placed. All other approach was barricadoed. Before concealing me there, one of my friends, whom I shall name in the course of this history, had informed me in what manner I should be saved, on condition that I should bear all imaginable sufferings without complaining; adding, that a single imprudent step would bring destruction on me and on my benefactors; and he insisted, above all, that when I was concealed I should ask for nothing, and should continue to act the part of a really deaf and dumb child.

"When I awoke I recollected the injunctions of my friend, and I firmly resolved to die rather than disobey them. I ate, I slept, and I waited for my friends with patience. I saw my first deliverer, from time to time, at night, when he brought me what was necessary for me. The figure was discovered the same night; but the government thought fit to conceal my escape, which they believed to have been com-



pleted. My friends, on their part, the better to deceive the sanguinary tyrants, had sent off a child under my name, in the direction, I believe, of Strasbourg. They had even countenanced the opinion, and given information to the government, that it was I who had been sent in that direction. The government, in order entirely to conceal the truth, put in the place of the figure a child of my age, who was really deaf and dumb, and doubled the ordinary guard, endeavouring thus to make it be believed that I was still there. This increase of precaution prevented my friends from completing the execution of their plan in the manner they had intended. I remained, therefore, in this vile hole, as if buried alive.

"At this time I was about nine years and a half old, and, already accustomed to hardships by my long sufferings, I cared little for the cold that I endured, for it was in the winter that I was imprisoned in the fourth story. My friends had managed to procure the keys of it, to prepare beforehand what was necessary for my abode there. No one could suspect that I was there. This room was never opened. If any one had entered it, they could not have seen me, and the friend who visited me could only reach me by going on all fours. If he was prevented coming, I waited patiently in my concealment.

"Frequently I had to wait for several days the arrival of the beneficent beings who provided me with food. No doubt my readers would wish me to make known the names of these noble individuals, these magnanimous protectors. I cannot do it in this narrative."

"The revolutionary government, on account of its political position, had judged it expedient not to let the real state of things transpire; consequently they had substituted a deaf and dumb child in the place of the wooden figure. Notwithstanding this artifice, as there were many persons who were well acquainted with the real dauphin, orders were given not to admit any of those who knew him, to prevent all possibility of the secret being betrayed. To verify the existence of the pretended dauphin, such persons only were sent as were in the secret, or such as were unacquainted with me. I know not how it happened that in spite of all these precautions it was whispered about that the real dauphin was no longer in the tower. The agitator was alarmed, and it was decided that the deaf and dumb child should die. For this purpose deleterious ingredients were mixed with his food which made him ill, and in order to avert the suspicion of poison, M. Dessault was called in, not to cure him, but to counterfeit humanity. M. Dessault visited the child, and soon perceived that some kind of poison had been given him: he ordered an antidote to be prepared by his friend, the apothecary Choppart, telling him at the same time that the child he was attending was not the son of Louis XVI., whom he had formerly known. M. Dessault's disclosure was repeated: the murderers of my family, seeing that the life of the dumb child was prolonged in spite of their attempts to poison him, substituted for him a rickety child from one of the hospitals in Paris. This measure also quieted the apprehensions they had entertained that by some accident the deaf and dumb child might be discovered to be really such; and in order to secure themselves against any farther betrayal of the secret, they poisoned Dessault and Choppart. The last child substituted was attended by physicians who, never having seen either the real dauphin or the sick child, naturally believed that it was I whom they were attending."

It would be too long to relate how he is got out of the tower of the Temple by means of—whom may the reader suppose?—why, Barras and Madame Josephine Beauharnais!—soon after Madame Napoleon Buonaparte! It should appear that everybody mentioned as being privy to these adventures is long since dead, with the exception of one Madame de Rambaud, who is very old, and *maybe* in her dotage, notwithstanding the letter quoted at page 272. According to the strange account of his royal highness, he fell into the hands of a German lady, who taught him her own language, in order the better to conceal who he was—and it should appear he has learnt German so effectually as to forget his French, notwithstanding his living many years in France! But in spite of his German he was discovered and carried back to prison. He was again liberated by means of Josephine, who seems to have had a perfectly miraculous *open-sesamé* faculty. He was then sent to Venice, from Venice to Trieste, and from Trieste to Rome, where he was patronised by Pope



Pius VI., which is about as true as that his cause was espoused by King George III. Soon the republican army of France deprived him of his protector the pope; whereupon he secretly buried his treasure, (he does not tell us where he got it,) fled in the middle of the night, and sailed for England. He was taken at sea, carried back to France, and thrown again into prison, where he lay some five years, till 1803, when Josephine again broke his chains, and set him at liberty by means of the minister Fouché. *Vive Fouché! vogue la galère!* But this is the most wonderful escape of all! Very soon after he was taken again near Strasbourg, and thrown into the fortress of that town, where he was bit by a rat and fed upon bread and water. In the spring of 1809, when he was twenty-four years old, he was again liberated by Josephine, who employed secret agents for that purpose. This gentle lady would not have left him to linger so long in the dungeon of Strasbourg, if it had not been for Buonaparte's promising to make her son Eugène his heir to the thrones of France and Italy. But when she learned Napoleon's design to divorce her, and marry Maria Louisa of Austria, Josephine had determined to release this real dauphin, in order that he might thwart her unkind husband. At this part of the narrative our dauphin tells us that nature has imprinted on his left thigh the resemblance of a dove flying downwards with outspread wings, and that this miraculous mark is quite enough to prove his identity with the male child of Louis XVI. After his liberation from Strasbourg he travelled in Germany till he was knocked down with the butt-end of a musket, and carried off by French gens-d'armes. But he soon gave them the slip, got to Berlin, and, in order to earn his bread, set up as a watchmaker—a curious trade for one who had no opportunity of learning any mechanical art. He lived *en ménage* with a Madame Sonnenfeld, to whom he confided the secret of his royal birth. In 1812 he removed from Berlin to Spandau, where he was living when the town was bombarded by the Prussians and Russians. The four suburbs of Spandau were destroyed, the town was set on fire, but the fire (so goes the narrative) stopped as if by a miracle at the house which he inhabited. "I use the word *miracle*," says our dauphin, "because the buildings belonging to my dwelling, and which were adjacent to the house and under the same roof, were consumed to the very foundations; *my room alone* was spared, and sustained not the slightest damage." In 1816 he sent a messenger to tell the Duchess of Angoulême that he, her dear brother, was alive, and making watches. The duchess took no notice of his message; the messenger got into prison. In 1818 he lost his *ménagère*, Madame Sonnenfeld, upon which he married a Miss Jenny Einers, who in the month of August, 1819, bore him a young prince, whose birth he announced to the Duchess of Angoulême. In 1820 he says he received a consolatory letter from the Duc de Berri, *who was assassinated ten days after writing it*. Soon after he was arrested in Prussia upon a charge of *circulating false coin*. Upon his trial he asserted that he belonged to the august family of the Bourbons, upon which the court called him "an impudent liar." After lying some time in the common jail, he was acquitted of the main charges brought against him; "but *the irreproachable son of the martyr king*" was not liberated till 1828, and at this period he had "to submit to the humiliation of being pardoned, upon condition that he should quit Brandenburg, and remain at a distance from Berlin." By this time all his money was gone, and more children had come. He packed up some articles of watchmaking, and some bedding for his children, and went to live at Crossen. Hence he wrote, or caused others to write, in *his royal name*, to the King of Prussia, to Charles X., to the Duchess of Angoulême. Soon after, his agent, the worthy Mr. Pezold, fell suddenly sick and died, exclaiming, "My God, they have poisoned me!" In 1831, when Charles X. was driven from his throne, our dauphin wrote him a letter of forgiveness; and about the same time he heard that the Prussian

government were going to throw him into prison as an impostor. His royal highness crossed the frontier, drank a bottle of beer with his driver in the valley of Bläuen, went on to Dresden, then to Nuremburgh, where some Polish fugitives mistook him for a Russian spy, and where the police put him into prison. Surely was there never such a jail-bird! He is no sooner out of one prison than he gets into another! At last, after many Turpin-like adventures, he reached France, where he "demanded *only* his hereditary property, his rights of citizenship, a country, and a tomb." But he found Louis Philippe as incredulous as his predecessors, and the French swore that he was no Frenchman, but only a crazy Prussian watchmaker. In a very short time he was again in prison, and as the French court established on good evidence that he was a foreigner, they turned him out of the country in virtue of their alien law. It should appear that from France he came over to England, where, in the number of mad political refugees and *chévaliers d'industrie*, he found some ready enough to swear allegiance to him.

This is a sorry joke, and one which we should scarcely have noticed, had it not been for the high position occupied in society by the honourable and reverend editor and translator of the present book.

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#### *The Guide to Trade. The Printer.*

A capital little work. A shilling's worth of information most valuable to all who are in any way connected with any of the branches of the mighty press. And who is there at this day but is or may be included in matters, great or small, within the magic and still spreading circle? That some such easy treatise was wanting is evident from the fact that half even of our professional authors have been curiously ignorant about types, press-work, and all matters connected with that mechanical art which multiplies the production of their brain. Any compositor in London will tell you that not one author in ten can properly correct a proof-sheet, or make any calculation as to the quantity of printing their MS. (technically called *copy*) will make when set up in any given type. And yet it is easier to learn these things than conjuring. This little book will give them the necessary information, and a deal of useful knowledge besides.

The mechanical parts of the subject are made very clear by the introduction of wood-cuts. A portion of the matter appeared some three or four years ago in the Penny Magazine, but the additions and improvements are numerous. The introduction, consisting of twenty pages, is entirely new, and an admirable little essay, with something of an autobiographical air and feeling about it. It is worthy of being bound up with Benjamin Franklin's delicious account of his own life and adventures in a printing-office. To any youth contemplating the taking up of the trade and mystery of a printer this book will be highly useful. It is, indeed, a rare shilling's-worth.

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#### *Hand Book. Switzerland, Savoy, and Piedmont.*

Like the other works of the kind by the same author this is an admirable guide-book, most useful to the tourist, and excellent in all respects, containing a fund of amusement as well as of information. We have a few masterpieces of this kind limited to narrow districts, but for a wide range of foreign country we have little hesitation in saying that Mr. Murray's Hand Book or Guide Books are the best that have been produced. We trust that we offend not against *les convenances* in naming

the author, the son of Mr. Murray of Albemarle Street—of glorious John, the prince of booksellers, who will be King John to the last.

We can speak confidently as to the accuracy of the details, having gone over the ground, or nearly every part of it, step by step, in our younger days, when we thought it no hardship to trudge on foot from dawn to dewy eve with a knapsack on our shoulders, and a good alpen-stock in our hand.

The author's acquaintance with the science of geology has been of the greatest use to him in this grand tour among the Alps. His style is clear, light, and lively. Some of his anecdotes are told with a rare grace and point. The book may be read with delight, even by those whose travels are all made by the home fireside. We most cordially recommend it to the attention of all.

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*The Philosophy of Language, containing Practical Rules for acquiring a knowledge of English Grammar, with Remarks on the Principles of Syntax and Composition.* By WILLIAM CRAMP, Author of "Junius Discovered."

This is an ingenious, and, in some respects, a learned treatise, written clearly and without pedantry—that besetting sin of grammarians and philologists. The author, perhaps, is not always right, but he is invariably useful, as helping to set people a-thinking on the fundamental principles of language.

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*Summary of Works that we have received, of which we have no space to make a lengthened notice.*

*The Young Lady's Equestrian Manual.*—A very beautiful and excellent little book, in which, as it appears to us, everything necessary is contained relative to this delightful and health-giving exercise. It is, indeed, a valuable epitome, and, we doubt not, will be much prized and sought after by all ladies that desire to acquire the art in which their young queen excels. It is beautifully got up, and is embellished with numerous excellent and most graceful little cuts. It is appropriately dedicated to the queen.

*Hoary Head, and the Valleys Below.* By JACOB ABBOTT, author of the "Young Christian," &c.—A series of moral and religious tales for children, well adapted for juvenile minds.

*Edinburgh Cabinet Novels.*—The Medicaster.—This is the first of a series of *original* novels in a very cheap form. The tale is completed in this volume, which, though not one-third of the ordinary size, yet contains as much letter-press. Of the tale itself much might be said in its praise. It is well and carefully written, highly interesting, and far superior to many similar productions that cost more money.

*The Village Magazine. A Journal of Literature, Science, Fine Arts, and General Knowledge, with Illustrations. To be continued Monthly.*—Sincerely do we hope that this unpretending, instructive miscellany may find its way to every village hearth in the kingdom. It contains much useful information of an entertaining kind, and in some respects it may serve as a guide to the tourist through a beautiful part of England.

*Plain Instructions for the Attainment of an Improved, Complete, and Practical System of Short Hand, whereby the words of any Speaker may, by practice, be taken down verbatim, and read afterwards with the facility*



*and certainty of ordinary Print.*—This is saying a good deal for itself, but the title-page is very fairly borne out. It is the best book on the subject we have seen, and a decided improvement upon many of the *slow* systems extant. To all who desire perfection in this difficult art, we recommend the purchase of Mr. Foster's treatise.

*Memoirs of the celebrated Eugene Aram, who was executed for the Murder of Daniel Clarke in 1759; with some Account of his Family and other Particulars, collected, for the most part, above Thirty Years ago.* By NORREYSON SCATCHERD, Esq., Author of the "History of Morley," &c.—The life of this extraordinary man has long been the subject of controversy with reference to his guilt or innocence. The author of this curious little book has taken uncommon pains in the elucidation of the mysterious subject, and his views are given with remarkable earnestness. The subject has lately been revived in the public mind by the silly discussion of the philosophers at Newcastle on Eugene Aram's skull. Mr. Scatcherd seems to say that the real skull was lost sight of in London many years ago.

*Analytical Considerations on the Art of Singing, containing an Account of the various Styles of Singing prevalent in the principal Countries of Europe, classed under the heads of Sacred, Popular, and Theatrical.* By ANDREW COSTA, Professor of Music, and Honorary Member of the Philharmonic Society of Cracow.—The well-earned reputation of this distinguished artiste is a sufficient guarantee of the worth of this work, and must assuredly promote its success. The whole art of singing is laid down, as far as words can do it, in a clear and truly scientific manner, with many useful and important hints for the improvement and preservation of the voice.

*A Brief History of Christ's Hospital, from its Foundation by King Edward VI. Sixth Edition. With Six Illustrations and a List of the Governors.* By J. L. WILSON.—The fact of this little work having attained its sixth edition is a fair criterion of its merit and usefulness. It contains the whole, true, and particular account of this most excellent establishment. We have been delighted by looking over the list of the many high-minded and accomplished men who have owed their education to the Blue Coat School.

## LIST OF NEW PUBLICATIONS.

- Reid, (Lieut.-Col.) on the Law of Storms. Royal 8vo. 21s.  
 The Hand Book for Switzerland, Savoy, &c. Post 8vo. 10s.  
 Lloyd's Letters from the West Indies. 12mo. 6s.  
 Strictures on some Parts of the Oxford Tracts, a Charge. By the Rev. J. H. Browne. 8vo. 6s.  
 Close's Typical Sermons. 12mo. 5s.  
 Hannay's Concordance. 18mo. 6s.  
 A Pleasure Tour to Ireland. 18mo. 2s. 6d.  
 Hieroglyphics on the Coffin of Mycerinus. Folio. 15s.  
 An Essay on Food. By W. Grisenthwaite. Fcap. 4s.  
 Cogitations of a Vagabond. By the Author of "Frank Orby." Post 8vo. 8s.  
 Graham on Indigestion. Fourth Edition, with Additions. 8vo. 8s. 6d.  
 Edinburgh Academy Rudiments of the Latin. Fifth edition. 12mo. 2s.  
 Noehden's German Grammar. Eighth edition. 12mo. 8s.  
 Celestial Scenery. By Dr. Dick. Second edition. 12mo. 10s. 6d.  
 Hack's Winter Evenings. New edition. 12mo. 6s.  
 Upcher's Stories from the Commandments. 16mo. 2s. 6d.  
 Russell on Developement in Infant Schools. Second edition. 12mo. 2s. 6d.  
 Archbold's Act for Abolition of Imprisonment for Debt. 12mo. 5s.

- Mogg's Map of the London and Birmingham Railway. 1s. 6d.  
 Wickens on the Laws of Debtor and Creditor. 12mo. 1s. 6d.  
 A Guide through Ireland. By J. Fraser. 12mo. 12s.  
 Sullivan's Orthographical Exercises. Second edition. 18mo. 1s. 6d.  
 Carey on the Evidences and Corruptions of Christianity. 8vo. 8s.  
 The Mother's Book. By Mrs. Child. New edition. Royal 32mo. 2s.  
 The Frugal Housewife. By Mrs. Child. New edition. Royal 32mo. 2s.  
 Gambert's Manual of French Pronunciation. 12mo. 2s.  
 Travels in Austria, Russia, and Turkey. By C. B. Elliott. 2 vols. 8vo. 30s.  
 Nye's Short Hand Dictionary. 18mo. 7s. 6d.  
 Tupper's Proverbial Philosophy. Second edition. Post 8vo. 6s.  
 Williams's Missionary Narrative. Fifth edition. Post 8vo. 8s.  
 Pictorial Edition of the Book of Common Prayer. Super royal 8vo. 31s. 6d.  
 Henry's Pleasantness of a Religious Life. 32mo. 1s.  
 Von Essen on the Responsibility of the Christian Ministry. 8vo. 1s.  
 The Church, the Bishop, or Corah, Which? 12mo. 2s. 6d.  
 Kingdom Sermons. Second Series. By J. Pring. 8vo. 12s.  
 Reflections of the Ball Room. 18mo. 1s. 6d.  
 Simeon on the Holy Spirit. 32mo. 1s.  
 Simeon on the Liturgy. 32mo. 1s.  
 A Collection of Prayers. By W. Thoms. Fifth edition. 12mo. 3s.  
 Land Sharks and Sea Gulls. By Captain Glascock. 3 vols. post 8vo. 31s. 6d.  
 Edinburgh Cabinet Novels. Part II. "The Mortgagee." 12mo. 2s.  
 Milton's Poetical Works. Walker's New Edition. 24mo. 4s. 6d.  
 Memoirs of the Life of Richard Birdsall. New Edition. 32mo. 1s. 6d.  
 Rogers's Poems. Fcap. 5s.  
 Aids to Memory. By Mrs. Jukes. With Preface by Professor Vaughan. 18mo. 2s. 6d.  
 The New Excitement, 1839. 18mo. 3s. 6d.  
 Father Clement. Ninth Edition. Fcap. 4s. 6d.  
 Library for the Young. Vol. I. "The Field, the Garden, and the Woodland." 16mo. 4s.  
 Wogan on the Proper Lessons. New Edition. 16s.  
 Microscopic Illustrations. By Goring and Pritchard. New Edition. 8vo. 10s. 6d.  
 Tyson's Philosophical System of Short Hand. 12mo. 2s.  
 Foster's Practical System of Short Hand. 12mo. 2s. 6d.  
 Barrow's Popular Dictionary. New Edition. 12mo. 4s.  
 De Porquet's Cours de Littérature. 12mo. 3s. 6d.  
 Bialloblotzky's Extracts relative to German Literature. 12mo. 6s.  
 Haddon's Farmer's Account Book. New Edition. 6s. 6d.  
 Three Hundred Ordination Questions. New Edition. 12mo. 1s. 6d.  
 Martin Doyle's Kitchen Garden. New Edition. 12mo. 1s. 6d.  
 Lovelass on Wills. Twelfth Edition. By A. Barron. 8vo. 16s.  
 Mason on Episcopacy. With Introduction, &c. by the Rev. J. Blackburn. 12mo. 3s. 6d.  
 Aristomenes. 2 vols. 8vo. 21s.  
 Granville's Spas of Germany. Second Edition. 1 vol. 8vo. 18s.  
 Lush's Act for Abolition of Arrest. 12mo. 5s.  
 Wells's Act for Abolishing Imprisonment for Debt. Second Edition. 12mo. 2s. 6d.  
 Bentham's Works. Part V. Edited by Dr. Bowring. Royal 8vo. 2s.  
 Scatcherd's Memoirs of Eugene Aram. Second edition. 12mo. 1s.  
 Ellis's Tariff, 1838-9. 12mo. 5s.  
 Walker's Original. New edition. 8vo. 8s.  
 Retzch's Fancies and Truths. 4to. 10s. 6d.  
 Bourne's Railway. No. I. 21s.  
 Colburn's Modern Novelists. Vol. XIV., "Sayings and Doings. Second Series." Fcap. 6s.  
 De Porquet's French Spelling Book. New edition. 2s. 6d.  
 De Porquet's Introduction to Parisian Phraseology. New edition. 12mo. 1s. 6d.  
 Theobald's Imprisonment for Debt Act. 12mo. 5s.  
 Bertinchamp's French Student. 12mo. 3s.  
 Parley's Visit to London during the Coronation. Square. 3s. plain, 4s. coloured.  
 Gems of Anecdote. 32mo. 2s.  
 Gems of Wit and Humour. 32mo. 2s.

Smith's Compendium of Mercantile Law. Second Edition. 8vo. 21s.  
 Tarver's Conversational French Exercises. Third edition. 12mo. 3s. 6d.  
 Waugh's Science of the Cerebro-Spinal Phenomena. Fcap. 6s.  
 Essays on the Apocalypse. By R. B. Sanderson. Fcap. 4s.  
 The Christian Naturalist. By Rev. E. Budge. 12mo. 3s.  
 Hancock's Hear the Church. Fcap. 2s. 6d.  
 Letters on the Writings of the Fathers. By Misopapisticus. Crown 8vo. 5s. 6d.  
 Fallow's Order of Baptism. 12mo. 7s. 6d.  
 Barr's Recollections of a Minister. Post 8vo. 3s. 6d.  
 Sermons, and Outlines of Sermons. By Eminent Ministers. 12mo. 4s. 6d.  
 The Naturalist's Library. Vol. XXII. Fcap. 6s.  
 Rowland on Neuralgia. 8vo. 6s.  
 Wayland's Elements of Political Economy. 18mo. 2s.  
 Scheming, a Tale. By Mrs. Godwin. 18mo. 2s.

### LITERARY NEWS.—WORKS IN PROGRESS.

Mrs. Jameson's new work, "WINTER STUDIES AND SUMMER RAMBLES," may be expected about the middle of the month.

A new work from the pen of a Lady, entitled, "ADA," a tale, is in progress.

Mrs. Edward Thomas's new volume of Poems, entitled, "TRANQUIL HOURS," is now ready.

Captain Byng Hall has nearly ready a new work, entitled, "SCENES IN ENGLAND," in one volume, post octavo.

Miss Burdon's new work, "THE LOST EVIDENCE," is on the eve of completion.

The following "Annuals" are announced for publication in October: "The Landscape," "Heath's Picturesque," "The Keepsake," "The Book of Beauty," "Gems of Beauty," "Portraits of the Children of the Nobility," and "Beauty's Costume."

"Truths from the West Indies," by Captain Hodgson, will be published in a few days.

Reminiscences of South America, from Two and a Half Years' Residence in Venezuela, by John Hawkshaw, F.G.S., Member of the Institution of Civil Engineers.

The Original Works of Thomas Hobbes, of Malmsbury; now first collected and edited, with a Life of the Author, and a View of his Philosophy, by Sir William Molesworth, Bart., M.P.

Operations carried on at Gizeh, in 1837; also an Account of a Voyage into Upper Egypt. Illustrated with Drawings and numerous Wood-cuts. By Colonel Howard Vyse. In imperial octavo.

The Pyramids of Gizeh, from actual Survey and Admeasurement. Illustrated with Notes and References to the several Plans. By J. E. Perring, Esq., Civil Engineer. With Sketches taken on the Spot by E. I. Andrews, Esq. In columbier folio. The first part, containing the Great Pyramid, is nearly ready.

The Hieroglyphics on the Coffin of Mycerinus, found in the third Pyramid of Gizeh. With Letterpress description. In imperial folio.

The Elements of Physiology. By Thomas Johnstone Aitkin, M.D., Lecturer on Physiology and Materia Medica, F.R.C.S., Edinburgh, &c. &c., with thirty-seven Wood-Cuts, in one volume, 12mo.

A Genealogical and Heraldic History of the Extinct and Dormant Baronetcies of England. By John Burke, Esq. and J. B. Burke, Esq. of the Middle Temple. In one volume, medium 8vo.

A System of Natural Philosophy; with Questions for the Examination of Scholars. By John L. Comstock, M.D.; with additions by George Lees, M.A. Lecturer on Natural Philosophy, &c. Edinburgh.

A History of British Birds, Indigenous and Migratory. By William Macgillivray, M.A., F.R.S.E., &c.

The Philosophy of Natural History. By William Smellie, F.R.S.L. & E. With an Introduction. By John Ware, M.D.

The Elements of Physics. By Thomas Webster, M.A. Trinity College, Cambridge.



## THE COMMERCIAL RELATIONS OF THE COUNTRY.

Considerable activity prevails in the cotton market. The harvest has been happily secured during the late favourable weather. There can be no doubt but that the facilities afforded by the establishment of steam navigation between this country and America will be productive of the most important consequences to both countries. On each occasion, we understand, there have been more passengers for the steam-ships than could be conveyed. The effect also of our railroads is beginning to be felt.

The alterations in the mail communications between London and the West Riding of Yorkshire, which are about to take place in consequence of the whole line of railway between London and Manchester being opened, will, it is understood, be made on the quarter-day, the 5th of October, when the morning mail bags for Rochdale, Halifax, Bradford, and Leeds, will leave London at nine or ten o'clock in the morning *viâ* Manchester, and will be forwarded by the Manchester and York mail, which leaves Manchester at eight o'clock in the evening of that day, so that the morning letters and papers from London, which are despatched on the forenoon of one day, will arrive in Leeds at two o'clock in the morning of the following day. Already the London morning papers, by an arrangement with the railway proprietors, arrive in Leeds, by the Manchester mail, about sixteen hours after their publication in London.

## PRICES OF THE PUBLIC FUNDS,

On Tuesday, 25th of September.

### ENGLISH STOCKS.

Bank Stock, 208 to 9.—Three per Cent. Consols, 93 seven-eighths to 4.—Three per Cent. reduced, 94 seven-eighths to 95.—Three and a Half per Cent., reduced, 102 and a quarter.—Exchequer Bills, 69s. to 71s. prem.

### FOREIGN STOCKS.

Portuguese New Five per Cent. 34 and a half to 5.—Dutch, Two and a Half per Cent., 54 to one-eighth.—Dutch, Five per Cent., 102 to 3.—Spanish Active Bonds, with May coupons, 18 one-eighth to three-eighths.

**MONEY MARKET REPORT.**—Tuesday Evening, Sept. 25.—By the advices from Hamburg the price of gold is 437 per mark, which, at the English Mint price of 3*l.* 17*s.* 10½*d.* the ounce for standard gold, gives an exchange of 13.11, and the exchange at Hamburg on London at short being 13 8¼, it follows that gold is 1.04 per cent. dearer at Hamburg than in London.

The premium on gold at Paris is 8½ per mille, which, at the English Mint price of 3*l.* 17*s.* 10½*d.* the ounce for standard gold, gives an exchange of 25 36½, and the exchange at Paris on London at short being 25 42½, it follows that gold is 0.24 per cent. lower at Paris than in London.

The course of exchange at New York on London is 109½ per cent., and the par of exchange between England and America being 109 23-40 per cent., it follows that the exchange is 0.22 per cent. against England.

The Stock Exchange was but thinly attended to-day, and the business was more than usually unimportant. The funds remain with scarcely a variation. Consols for money were 93¾ to 4, and for account 94 to ½. Bank Stock, 208 to 9; India Stock, 264 to 5. Exchequer bills, 69s. to 71s. premium.

A slight advance took place a short time before the close of business in Dutch stocks, the 6 per Cents. leaving off at 102¾ to 3, the 2½ per Cents., 54 to ½. In other foreign securities but very little was doing. Spanish were still further depressed, the Active, with the May coupons, closing at 18½ to ¾; Portuguese 5 per cents.,

34½ to 5; the 3 per cents., 22½ to 3. Brazilian were 83½ to 4; Mexican, 22½ to 3½; Columbian, 24½ to 5½.

Railway shares were not in such brisk demand, and the former quotations of several were not maintained. Great Western receded to 16 to 17; Southampton (New) to 22½ to 3½ premium; London and Birmingham were 85 to 7; Manchester and Birmingham, ¾ to 1½ premium; Southampton, (Old,) 2½ to 1½; Brighton, 17½ to 8; Blackwall, 1½ to ¼ discount.

## BANKRUPTS.

FROM AUG. 21, TO SEPT. 21, 1838, INCLUSIVE.

Aug. 21.—T. Driver and J. Moore, city, shipowners.—J. W. Barrett, jun., Abingdon, Berkshire, grocer.—J. Rodgers, Chorlton-upon-Medlock, Lancashire, coach builder.—M. Kew, Torrisholme, Lancashire, victualler.—P. Beaumont, Willington, Northumberland, builder.—J. Haigh, Meltham, Yorkshire, dyer.—W. Butt, jun., Herne Bay, Kent, schoolmaster.

Aug. 24.—L. Andemars, Dean Street, Westminster, watch case manufacturer.—G. B. Harding, Cannon Street, city, paper hanger.—J. D. Stevens, Two Waters, Hertfordshire, paper maker.—G. Bettison, Margate, librarian.—D. Raybould, Westbromwich, Staffordshire, builder.—C. Taylor, Manchester, gas engineer.—J. Hogg, Mathon, Worcestershire, victualler.—A. Hacker, Canterbury, builder.—N. Gray, Great Yarmouth, Norfolk, common brewer.

Aug. 28.—M. V. Bergh, Leman Street, Goodman's Fields, merchant.—J. W. Thomson, Sion Nursery, Croydon, nurseryman.—G. Orbell, Romford, Essex, horse dealer.—H. Orbell, Romford, Essex, inn keeper.—T. Pike, Rotherhithe Street, Surrey, coal merchant.—B. Conigrave, St. John Street Road, Clerkenwell, and J. Conigrave, Trinity Square, Southwark, cabinet makers.—G. F. Crossley, Liverpool, common brewer.—J. Greenhough, Manchester, cabinet maker.—W. Coombe, Great Torrington, Devonshire, builder.—J. Lowe, Manchester, cotton spinner.—T. Wallace, Pontypool, Monmouthshire, grocer.—J. Cockroft, Hebden Bridge, Halifax, Yorkshire, leather dresser.—E. Hargreaves, Manchester, ironmonger.

Aug. 31.—R. Stopford, Audenshaw, Lancashire, hat manufacturer.—S. Bettison, Margate, Kent, librarian.

Sept. 4.—D. Francis, Goswell Street Road, surgeon.—J. Luce, Bristol, woollen draper.—J. R. Greer, Bristol, merchant.—F. L. Schwind, Liverpool, merchant.—W. Brown, Sheffield, victualler.—J. Hiley, Caistor, Lincolnshire.

Sept. 7.—C. George, Paddington Street, St. Marylebone, builder.—G. Clarkson, Sheerness, victualler.—J. Corns, jun., Smallbrook Street, Warwickshire, cabinet maker.

Sept. 11.—J. Saunders, jun., Paternoster Row, bookseller.—C. Price, Clerkenwell Green, lamp manufacturer.—C. H. Duboe, Princes Street, Spitalfields, silk dyer.—J. Hutchinson, East Retford, Nottinghamshire, wine and spirit dealer.—J. Beall, Truro, Cornwall, mine agent.—B. Mitchell, York, builder.—W. Gadsby, jun., Manchester, joiner.—W. Houghton, Kirkham, Lancashire, tow spinner.—R. Briggs, Ulverstone, Lancashire, cotton spinner.—T. Jennings, jun., Canterbury, slate merchant.

Sept. 14.—C. Walker, King's Place, Commercial Road, linen draper.—J. B. Falkner, Liverpool, share broker.—T. Brunt, Bank-top, Cheshire, traveller.—T. Bailey, Keighley, Yorkshire, worsted spinner.—J. Ogle, Liverpool, auctioneer.—W. Cook, Lincoln, innkeeper.—W. Rodgers, Sheffield, Yorkshire, licensed victualler.

Sept. 18.—H. E. Mosely, Forest Gate, West Ham, Essex, licensed victualler.—B. Parker, Botolph Lane, wholesale grocer.—J. Gun, Old Road, Limehouse, cowkeeper.—T. Harding, Portsmouth, scrivener.—E. Docker, Birmingham, coffin maker.—J. and J. Shaw, Halifax, Yorkshire, dyers.—R. Nickolls and J. Groves, Stamford, Lincolnshire, linen and woollen drapers.—W. Rothery, Wortley, Yorkshire, clothier.—W. Ellwood, Wigton, Cumberland, butcher.

Sept. 21.—E. L. Aarons, oil-merchant, St. James's Place, Aldgate.—J. Brown, builder, Melcombe Regis.—J. Faulding, Worcester, victualler.—J. Soper and C. Watts, Brighton, ironmongers.

## NEW PATENTS.

W. Wood, of Liverpool, Lancashire, Merchant, for an improved method of making bands and tackling, to be used in drawing, turning, or carrying machinery. July 26th, 6 months.

G. H. Palmer, of New Cross, Surrey, Civil Engineer, and C. B. Paterson, of Hoxton, Middlesex, Engineer, for certain improvements in the mode of preparing, constructing, and adapting certain parts of gas meters. July 28th, 6 months.

A. Paul, of Doughty Street, Saint Pancras, Middlesex, Surgeon, A. B. and M. B., for an improved hydraulic pump, douche, or jet d'eau, applicable to all the purposes of lavement in medical operations. July 30th, 6 months.

R. Hendly, of Belgrave Street, St. Pancras, Middlesex, Doctor of Medicine, for a metallic concrete capable of being, by means of fire, cast into a variety of forms.

and applied to a variety of purposes for which iron, lead, zinc, copper, and other substances have been heretofore used. July 30th, 6 months.

S. Hall, of Basford, Nottinghamshire, Civil Engineer, for improvements in steam-engines, heating or evaporating fluids or gases, and generating steam or vapour. July 30th, 6 months.

J. Rayner, and J. W. Rayner, of Birmingham, Warwickshire, Civil Engineer, and H. S. Rayner, of Ripley, Derbyshire, Civil Engineer, for their improvements in machinery for roving, spinning, and twisting cotton, flax, silk, wool, and other fibrous materials. July 31st, 6 months.

E. Heard, of Bateman's Buildings, Soho Square, Middlesex, Manufacturing Chemist, for certain improvements in oxydising lead, and converting the same into pigments, or white and red lead, and manufacturing part of the products arising from these processes into soda. August 1st, 6 months.

George Marquis of Tweeddale, for an improved method of making tiles for draining, soles, house tiles, flat roofing tiles, and bricks. August 1st, 6 months. To extend to the colonies only.

E. Whell, of Walsall, Staffordshire, Tallow Chandler, for an improvement or improvements in the manufacture of candles. August 1st, 6 months.

J. Dennett, of New Village, in the Isle of Wight, Hampshire, Engineer and Surveyor, for improvements in war rockets, and the methods and apparatus for applying the powers of rockets, for the purpose of obtaining communication with vessels which are stranded, or in other situations of danger; also an improved instrument and method for accurately pointing mortars for throwing shells, which may likewise be used for firing shots from mortars, for the purpose of obtaining communication with ships. August 2nd, 6 months.

S. S. Hall, of the Circus, Minories, in the city of London, for improvements in preserving certain vegetable substances from decay. Communicated by a foreigner residing abroad. August 3rd, 6 months.

T. Lund, of Cornhill, in the city of London, for improvements in extracting corks from wine and other bottles with steadiness, facility, and safety. August 3rd, 6 months.

C. Bourjot, of Coleman Street, in the city of London, Merchant, for improvements in the manufacture of iron. August 3rd, 6 months.

R. W. Siever, of Henrietta Street, Cavendish Square, Middlesex, Gentleman, for certain improvements in looms for weaving, and in the mode or method of producing figured goods or fabrics. August 6th, 6 months.

P. A. le Comte De Fontainemoreau, of Charles Street, City Road, Middlesex, for certain improvements in wool combing. Communicated by a foreigner residing abroad. August 6th, 6 months.

R. Rodda, of the parish of St. Austle, Cornwall, Assay Master, for certain improvements in furnaces, fireplaces, and stoves for the consumption of smoke and the saving of fuel, and in the mode of applying them to the generation of steam, the smelting of metals, and other works. August 7th, 6 months.

E. de Beuret, (commonly called Viscount de Beuret,) of 28, Moorgate Street, in the city of London, for certain improvements in the construction of rail-roads and tram-roads to facilitate the ascent and descent of hills and inclined planes. Communicated by a foreigner residing abroad. August 10th, 2 months.

M. Heath, of Furnival's Inn, in the City of London, Gentleman, for improvements in preparing tobacco, and in making snuff. Communicated by a foreigner residing abroad. August 10th, 6 months.

T. Corbett, of Plymouth, Devonshire, Gardener, for certain improvements in heating hot-houses and other buildings. August 10th, 6 months.

D. Cheetham, Junior, of Staley Bridge, Chester, Spinner, for certain improvements in the means of consuming smoke, and thereby economising fuel and heat in steam-engines, or other furnaces or fireplaces. August 14th, 6 months.

C. W. Williams, of Liverpool, Lancashire, Gentleman, for certain improvements in the process or the mode of purifying or preparing turpentine, rosin, pitch, tar, and other bituminous matters, whereby he increases their power of giving out light and heat, either when distilled or burnt as fuel. August 14th, 6 months.

W. H. Porter, of Russia Row, Milk Street, Cheapside, London, Warehouseman, for improvements in anchors. August 15th, 6 months.

R. R. Reinagle, of No. 13, George Street, London University, Royal Academician, and the Chevalier G. R. D'Harcourt, of No. 6, King William Street, in the



City of London, Civil Engineer, for certain improvements in the means of propelling canal-boats, steamers, and other vessels. August 15th, 6 months.

G. R. D'Harcourt, of King William Street, in the city of London, Civil Engineer, for improvements in the manufacture of paper. Communicated by a foreigner residing abroad. August 15th, 6 months.

C. Fox, of No. 28, Gloucester Place, Camden Town, Middlesex, Engineer, for an improved arrangement of rails for the purpose of causing a rail-road engine carriage or train to pass from one line of rails to another. August 15th, 2 months.

M. W. Johnson, of Buckingham Place, Middlesex, Sculptor and Stone Mason, for improvements in the construction of coffins. August 15th, 6 months.

W. W. Potts, of Burslem, Staffordshire, China and Earthenware Manufacturer, for certain improvements in machines applicable to the printing or producing patterns in one or more colours, or metallic preparations to be transferred to earthenware, porcelain, china, glass, metal, wood, cloth, paper, papier machie, bone, slate, marble, and other suitable substances. August 21st, 6 months.

S. Stocker, of the City of Bristol, Machinist, for improvements in chimneys for dwelling-houses, and in apparatus for scraping, sweeping, or cleaning chimneys, and in the manufacture of such apparatus, and of the materials of which such chimneys are formed. August 21st, 6 months.

R. Bradley, W. Barrows, and J. Hall, of Bloomfield Iron Works, in the parish of Tipton, Staffordshire, Iron Masters and Co-partners, for an improved method or means of making iron. August 21st, 6 months.

J. L. Clement, of Rochfort, France, but now of Jauney's Hotel, Leicester Square, Middlesex, Gentleman, for improvements for ascertaining and indicating the rate of vessels passing through the water. August 21st, 6 months.

N. Troughton, of Broad Street, in the City of London, Gentleman, for improvements in the process of obtaining copper from copper ores. August 21st, 6 months.

P. A. Le Comte de Fontainemoreau, of Charles Street, City Road, Middlesex, Gentleman, for certain new and improved metallic alloys to be used in various cases as substitutes for zinc, cast-iron, copper, and other metals. August 23rd, 6 months.

G. Dickinson, of Wood Street, Cheapside, in the City of London, Paper Manufacturer, for an improvement or improvements upon steam-engines. August 23rd, 6 months.

A. Dunn, of Stamford Hill, Middlesex, Gentleman, for certain improvements in the manufacture of soap. August 24th, 6 months.

J. C. Haddan, of Bazing Place, Waterloo Road, Surrey, Gentleman, for certain improvements in the construction of carriages to be used on railways, and of the method of forming the same into trains. August 25th, 6 months.

H. Knill, of Eldon Place, Bermondsey, for improvements in cleaning the bottoms of docks, rivers, and other waters. August 30th, 6 months.

J. Grafton, of Cambridge, Civil Engineer, for certain improvements in the construction of retorts, and other machinery for making gas from coal and other substances. August 30th, 6 months.

J. Davies, of Nelson Square, Surrey, Gentleman, for a composition for protecting wood from flame. August 30th, 6 months.

W. Dolier, of Liverpool, Lancashire, Lecturer on Education, for a certain durable surface or tablet for the purpose of receiving writings, drawings, or impressions of engravings, or other devices capable of being printed, which surface may be applied for roads or pavements, and part of which invention may also be used as the means of strengthening or beautifying glass. August 30th, 6 months.

M. Berry, of 66, Chancery Lane, Patent Agency, for certain improvements in looms for producing metallic fissures, and also improvements in such fissures applicable to the making of buttons, epaulettes, tassels, and other purposes, for which gold and silver lace, or braiding, is commonly employed, and to the making of imitations of jewellery and other fancy articles. August 30th, 6 months.

L. Heyworth, of Yewtree, near Liverpool, Merchant, for a new method of employing steam power directly to the periphery of the movement wheel, for the purposes of locomotion both on land and water, and for propelling machinery. August 30th, 6 months.

J. E. Huxley, of Great Marlborough Street, J. E. Huxley, junior, of the same

place, and J. Oliver, of Dean Street, Soho, Stove Makers, for improvements in certain descriptions of Stoves. August 31st, 6 months.

W. J. Curtis, of Stamford Street, Blackfriars' Road, Civil Engineer, for certain improved machinery and apparatus for facilitating travelling and transport on railways, parts of which are also applicable to other purposes. August 31st, 6 months.

### MONTHLY METEOROLOGICAL JOURNAL.

Kept at Edmonton. Latitude 51° 37' 32" N. Longitude 3° 51" West of Greenwich.

The mode of keeping these registries is as follows:—At Edmonton the warmth of the day is observed by means of a thermometer exposed to the north in the shade, standing about four feet above the surface of the ground. The extreme cold of the night is ascertained by a horizontal self-registering thermometer in a similar situation. The daily range of the barometer and thermometer is known from observations made at intervals of four hours each, from eight in the morning till the same time in the evening. The weather and the direction of the wind are the result of the most frequent observations. The rain is measured every morning at eight o'clock.

1838.	Range of Ther.	Range of Barom.	Prevailing Winds.	Rain in Inches	Prevailing Weather.
Aug.					
23	64-51	29,64-29,37	S.W.	,075	Gen. clear, rain in morn. & aft., with dist. thund.
24	65-49	29,97-29,85	W.	,05	Generally clear, a shower of rain in the evening.
25	61-39	29,98-29,94	N.W.	,0375	Generally cloudy, frequent rain during the day.
26	70-46	30,01-29,98	W.	,05	Generally clear.
27	77-57	30,04-30,01	W.		Generally clear.
28	75-58	30,00-29,81	S.W.		Generally cloudy.
29	64-57	30,01-29,70	N.W.		Generally clear.
30	67-41	30,08-30,07	W.		Generally clear.
31	70-44	30,08-30,05	S.W.		Generally clear.
Sept.					
1	60-47	30,02 Stat.	S.W.		Generally clear.
2	68-48	30,15-30,07	N.W.		Evening clear, otherwise cloudy.
3	69-49	30,15-30,08	S.W.		Generally clear.
4	68-38	29,94-29,76	S.W.		Generally clear.
5	70-54	29,61-29,44	S.W.		Morning clear, otherwise cloudy, with rain.
6	64-55	29,28-29,27	S.W.	,125	Cloudy, frequent showers of rain during the day.
7	65-56	29,35-29,31	S.	,175	Gen. cloudy, dist. thund. acc. with rain in the aft.
8	60-50	29,85-29,52	N.	,075	General overcast.
9	60-38	30,10-30,05	W.		Generally clear.
10	61-35	30,37-30,26	N.		Generally clear.
11	64-34	30,44-30,46	S.		Generally clear.
12	63-34	30,32-30,30	W.		Generally clear.
13	66-45	29,41-29,21	S.W.		Morning cloudy, otherwise clear.
14	63-44	30,08-30,06	S.W.		Morning clear, otherwise cloudy.
15	64-48	30,02-30,00	S. & N.		Generally cloudy.
16	60-44	29,99-29,97	N.E.		Generally clear.
17	66-47	30,02 Stat.	N.E.		Afternoon cloudy, otherwise clear.
18	65-47	30,00-29,96	N.E.		General overcast.
19	59-51	29,89-29,81	N.E.		Cloudy, rain in the morning.
20	65-53	29,77 Stat.	S.W.		Generally clear.
21	59-34	29,81-29,77	W.		Evening clear, otherwise cloudy.
22	62-32	29,83-29,82	N.E.		Generally clear.

\* A brilliant meteor passed just below Cassiopeia's chair on the evening of the 27th ultimo.

**AURORA BOREALIS.**—On the evening of the 16th instant, from seven to half-past ten, we had an aurora borealis, rather differing in its character from that which is usually visible here.

Our attention was first directed to a curved belt of white light, which extended from Altair in Aquila, through Vega in Lyra, to Corona Borealis; after moving very gradually about three degrees towards the south, which occupied rather more than ten minutes of time, the intensity of light had considerably diminished, and here it disappeared in less than a quarter of an hour. At this moment but little light was visible in the north; shortly before nine, however, it became very light, and from this hour to half-past the coruscations, which were almost incessant in the north and north-west, were of a pure white—shortly after ten the coruscations had ceased, and the aurora was slightly tinged with red, and many clouds had risen.

Edmonton.

CHARLES HENRY ADAMS.



## HISTORICAL REGISTER.

As in consequence of the Recess we have no Parliamentary Intelligence to record, we shall avail ourselves of the opportunity thus afforded, to place before our readers some of the most generally interesting communications furnished by the Assembly of the British Association for the Advancement of Science, which has just concluded its Eighth Meeting, held at Newcastle.

On Monday, August 20, Sir John Herschel took the chair, and stated some preliminary arrangements which had been decided on for the general convenience, and some papers were read on astronomical subjects.

In the geological section a paper was read on the Newcastle Coal Field, by Mr. John Buddle, from which, being a subject of great interest, especially in the metropolis, we shall make the following extracts.

This coal-field occupies a tract in the counties of Northumberland and Durham, of about seven hundred square miles, the limits of which were accurately marked on a geological map of the district. Within this tract all the strata that compose the coal series may be traced continuously. The lowest bed in the series, that, namely, which lies next the millstone grit, is the Brockwell seam. There is, indeed, another seam of coal, called the eight-inch seam, at a perpendicular depth of  $97\frac{1}{2}$  fathoms below the Brockwell seam, but separated from it by the entire mass of the millstone grit, and the upper bed of carboniferous limestone, and not, therefore, properly belonging to the series now under consideration. An account of this and the associated strata, the author reserved for another communication, as he wished to confine attention to the strata above the millstone grit. The surface of the country is finely diversified with hill and dale, presenting nowhere any elevation deserving the name of mountain, or any depression which can be called a ravine or glen. The hills decline gradually into the valleys, except on the east and south-east of the district, where the magnesian limestone fronts the west and north-west in steep escarpments, and at one place in the interior, where Sacriston Heugh forms an escarpment fronting the east. The valleys through which the Tyne, the Wear, the Derwent, and other rivers flow, have such an aggregate breadth, that on their excavation an enormous mass of the most valuable coal seams in the district have been destroyed. The valley of the Tyne from Hexham to Tynemouth, that of the Wear from Wilton Castle to Sunderland, make a complete section of all the seams lying above the millstone grit, as they cut through the several outcrops in their relative order of superposition. The vale of the Derwent also cuts through the entire series, with the exception of the highest, or Hebburn Fell seam. This complete exposure of the contents of the coal-field is a compensation for the enormous waste before referred to; it has also caused the mineral wealth of this region to attract attention at an early period; and, in the infant state of mining, offered many advantages in the facility of working seams by horizontal adits, and effecting a cheap and easy drainage. Nay, even in the present improved state of this art, the valleys enable the miner to drain extensive collieries with ease, and facilitate the draining, by steam power, of the deeper mines. A range of hills of alluvial formation, consisting of sand and gravel, commences at Newburn, on the north side of the Tyne, and passes north and south, with some slight interruptions, by Stella, Beda Hills, Pelton Fell, and across the Wear at Durham. The most curious part of the ridge is at the Beda Hills, near Lintzford, on the Derwent. The thickness and breadth of the ridge are irregular; it does not extend so deep as any of the seams of coal, but has been very troublesome, in many instances where shafts were sunk in its line of direction. There are other detached masses of sand and gravel in various parts of the district. On the east and south-east side of the district, the coal strata plunge under the magnesian limestone series; but the depth to which they extend is unknown, and may be so for ever, as we are cut off, by the barrier of the German Ocean, from carrying our inquiries so far as to determine the eastern edge of the great trough or basin in which these strata have been deposited. There is, however, every probability that the Newcastle coal-field is really such a basin; for we find at South Shields the beds of coal rising towards the sea, and coal is raised at various places from under the magnesian limestone. A great many seams of coal are found in this coal tract, but they differ much in different places; and seldom more than five of workable thickness co-exist; and often not more than one or two occur in the same locality.

For example, in Monkwearmouth colliery there are thirty-one seams sunk through, in a depth of 264 fathoms, containing forty-seven feet of coal, inclusive of the interstratified foreign matters, but one seam only is worth working. The thickness of the seams varies from one inch to six feet. Also in Blackworth colliery, 283 beds have been bored through, in a depth of 206 fathoms, comprising forty-five beds of coal, which, with foreign interstratified substances, have an aggregate thickness of sixty feet; but of these only two or three are workable. These beds cannot, however, be regarded as continuous over the entire coal-field, as many of them can be traced to other seams, by whose splitting or division they have been formed. There are also some seams which have not been deposited in one locality as they have in others, distances of a mile or two often showing remarkable changes in the number and quality of the seams. The coal, generally speaking, is bituminous, but here also there is much variety. The strata consist of the usual alternations of argillaceous and sandy beds. The former, when soft, are called metal—when hard, metal stone. The sandstone beds are called Post. Argillaceous ironstone occurs interstratified with the metal stone. These various beds differ much in respect of texture, colour, &c., and it is difficult to identify them in remote localities. The best-defined sandstones near Newcastle are the grindstone, the seventy-fathom, and the main-post. The first supplies the Newcastle grindstones, which have been so long celebrated, and is extensively used for building: the two last lie below the grindstone, a great mass of argillaceous strata intervening. The main-post is the most continuous of all the strata in the district, and always accompanies the High Main coal seam; the other sandstone strata are not continuous over the district. The magnesian limestone in the east of the tract overlies a large body of coal strata; but it is in an unconformable position, as is proved by many sinkings. The mouth of the Tyne may be regarded as the northern limit of the magnesian limestone, small detached portions only being found north of the river, in the promontory of Tynemouth, and again at Cullercoats. Here also the inferior new red sandstone is exposed to view. The strata of the coal-field are generally covered by a strong clay soil, particularly in the higher grounds; but in some places, a thick diluvium prevails, as from Byker to North Shields, where the band varies in breadth from one to two miles, and from a few feet to thirty fathoms in thickness. It consists of clay, sand, and gravel; the latter being generally underneath, upon the regular rock. Fragments of sandstone, mountain limestone, ironstone, basalt, greenstone, and granite, are found in the diluvium, more or less rounded by attrition. They have plainly been derived from older rocks lying westwards. The clay of this diluvium is finely laminated; and frequently between the laminae there are arenaceous partings, in which crystals of selenite are found. Peat bogs occur in some places; alluvial deposits prevail in many of the valleys; and in the larger ones, peculiar lacustrine deposits, locally called washes, are frequent. One of these occurs near North Shields, but its extent is not well ascertained. It has denuded and destroyed the coal seams to an unknown depth, as they terminate on its western, and reappear on its eastern side. It has thus formed a great gap in the strata. A similar wash occurs in Ouseburn, and extends under the Tyne, and seems to be continued for some distance to the north-west, traces of it occurring at Jesmont colliery. Another extends from Chester-le-Street, thence to the bed of the Tyne, at Elswick colliery: its depth seems to be between thirty and sixty fathoms. The substances of which these washes are composed, are detritus from the neighbouring hills—clay, waterside sand, and gravel. In some places, where workings were carried on below this lacustrine deposit, an opening in the roof let down a current of sharp sand, in a completely unconsolidated state. Some of these deposits in the valley of the Tyne have been plainly formed in lakes, through which the river once flowed, but by the bursting of whose barriers a new channel was formed.

Prof. Phillips called the attention of the Section to the importance of the paper just read, and on the fact, now placed beyond a doubt, that the true coal strata extended beneath the magnesian limestone series. He stated that some of the best coal taken to London was found beneath that deposit. He also remarked that the other coal-fields, both of England and Scotland, showed a perfect accordance with the Newcastle field in respect of the amount and thickness of the beds, the average total thickness of the coal seams being about 50 feet, including the interstratified matters, while the whole number of beds—283 to 260 fathoms—showed an average thickness of about 5 feet. He expressed surprise how any one could doubt the slow and long-continued deposit of the coal measures, when he saw exhibited before him such a vast mass of sand, clay, ironstone, and other substances, regularly stratified, and intermixed, in many places, with abundant remains of shells.—Prof. Sedgwick also



expressed surprise that the extension of the coal strata under the magnesian limestone was ever doubted.

In the Mechanical Section Mr. Hall communicated a paper on the kindred subject of economising fuel.

The author insisted on the necessity of having the backs of the fireplaces vertical, and the apertures of the chimneys as contracted as possible; and he described the results of his experiments. One principle to be universally attended to in close fireplaces is, that the burning fuel be surrounded by a substance retentive of heat, and capable of radiating it back upon the fire itself. This is attained by covering the fire itself with a species of fire-brick, and only allowing a very small aperture for the escape of the heat thus forced off at the highest degree attainable, then to be economised by close confinement and regulation. The economy of heat, when attained, consists in conducting the hot air through long and horizontal flues, so as to counteract as much as possible its tendency to ascend, which tendency is exactly proportional to the temperature. The author illustrated the preceding paper by details of the arrangements which he had adopted, and alluded especially to the researches of Rumford on this subject.

Mr. Sopwith gives a "Description of an improved method of constructing large Secretaires and Writing Tables."

The great loss of time to persons engaged in extensive official business in consequence of the difficulty of arranging numerous sets of papers, and of obtaining access to them when so arranged, induced the author to take this opportunity of describing a table invented by himself, and which had been extremely serviceable to him. The principle is, that by opening a single lock, the whole of the drawers, closets, and partitions are opened. These are so disposed, also, as to admit of everything being reached without the person stirring from his seat. They are all entirely closed again by a single spring lock. It would be impossible to convey a proper idea of this ingenious invention without sectional plans and elevations; but the president, and many present, expressed their admiration of the arrangements, and of the convenience which such a table must be to every person engaged in an extensive correspondence, or having many sets of papers on various subjects. One contrivance is peculiarly worth mentioning. Within this case Mr. Sopwith hangs up his various keys. On any key being removed, a small counterbalance weight, or bolt, drops down, and remains down until the key is replaced. This bolt effectually prevents the closing of the case. If, then, the person should forget to replace the key which has been removed, he is immediately reminded of it, by being unable to close the case. The principle and contrivances are applicable to many various arrangements of drawers and partitions.

At the general meeting Professor Whewell delivered an admirable address, which we regret we have not space to insert.

At the next sitting the first paper read was a continuation of Mr. Buddle's account of the Newcastle coalfield. He stated, that the great length of the paper, and the limited time of the Section, would oblige him to give an extremely short abstract. He then adverted to the foreign substances interstratified with the coal: these are shale, galena, fire clay, calcareous spar, iron pyrites, quartz, sand, and ironstone. The earthy strata among the coal are called bands. Numerous bands occur; but the most remarkable seems to be the Eworth band, which at first is a mere parting, but at last, in its range N.E., swells out into a thickness of eighteen fathoms. The most common foreign substance is perhaps pyrites, which occurs in disseminated cubes, and also in thin veins. Calcareous spar is found on the facings of the seams, between the constituent laminæ. Balks, nips, and hitches, the various kinds of roof, accidental circumstances affecting the quality of the coal, were then noticed, and some singular groups of trees in an upright and inclined position described. The author then pointed out, by means of numerous sections, the various coal seams;—of these there are five, the High Main seam, the Two Yard coal, the Belcham coal, the High Quarter coal, and the Hutton seam on the Wear. The High Main seam is by far the most important. In Sheriff's Hill the seams are aggregately richer than in any other place, though there are several places where they are richer individually. The area occupied by the most perfectly developed part of the High Main seam is about eight or nine square miles. The four other seams were briefly noticed, and the changes which take place upon them, in their course, by the intermixture of foreign



substances, whereby they are so far deteriorated and reduced in thickness, as to be no longer worth working.—The next subject treated of was the Whin Dikes of the district; of these there are not many, and only three or four of them are large. The first is the Coaly Hill dike, which has been long known, and quarried in various places. Its course is irregular and serpentine; and it appears to have been injected among the strata in a liquid state after the coal was formed, and to have followed in its course the line of least resistance. Some of the dikes have been observed at a great depth cutting through the coal seams, and others range below all the coal strata. Their effects on the contiguous strata are to convert the coal into cinder; and one instance was mentioned, where the coal on one side of a dike was carbonised, while on the other no such change had been produced; from which it was inferred that the coal on the one side was formed before the dike, while that on the other was of later origin.—The faults or slips were next described. By far the most remarkable of them is the great Ninety Fathom dike, which appears upon the sea-shore at Cullercoats, and ranges at first west, then south-west, and again to the west. At Whitby, this fault depresses the coal to the depth of 510 feet; farther west the depression is still greater, the strata being 1,200 feet lower upon the northern than upon the southern side. The smallest vertical shaft seems to be 450 feet. A great many minor faults open into this great axis or line of fracture; and so numerous and vast are the dislocations and fractures which it has everywhere produced, that a great quantity of valuable coal has been rendered quite unfit for working. From various phenomena which are observed along the line of this fault, Mr. Buddle is of opinion, that it was formed while the strata were in a soft and yielding state, and before they had acquired that solid and rigid form, which would rather cause them to snap asunder by a great pressure downwards, than yield in the manner they have done.

Mr. Buddle's paper was illustrated in every part by a profusion of accurate and highly-finished drawings, plans, and sections.

Dr. Buckland adverted to the great value of Mr. Buddle's paper. This coal-field was unquestionably the most important in the country, since the metropolis itself, and near half the country, might be said to depend almost entirely on it. He thought that we could not over-estimate the importance to succeeding ages, of having a complete and accurate record thus made of all the bed of coal and the various workings—in fact, of a perfect plan of this great subterranean region, such as Mr. Buddle had given; since it would serve as a guide in after generations for every mining enterprise, and might be the means of saving, not only much property, but even the lives of multitudes, who, without such knowledge, might venture amid all the uncertainty and danger of concealed lakes and labyrinths. He hoped soon to see this important paper published in the valuable Transactions of the Natural History Society of Newcastle.—Professor Sedgwick fully concurred in what had fallen from Dr. Buckland.

The following letter from Lord Tankerville, describing a peculiar kind of wild cattle, preserved in his lordship's park at Chillingham, was introduced in a report on the subject by Mr. Hindmarsh, of Alnwick.

"SIR,

"Grosvenor Square, 8th June, 1838.

"Some time since I promised to put down upon paper whatever I knew as to the origin, or thought most deserving of notice in respect to the habits and peculiarities of the wild cattle at Chillingham. I now proceed to redeem my promise, begging pardon for the delay. In the first place, I must premise that our information as to their origin is very scanty; all that we know and believe in respect to it rests in great measure on conjecture, supported, however, by certain facts and reasonings, which lead us to believe in their ancient origin, not so much from any direct evidence, as from the improbability of any hypothesis ascribing to them a more recent date. I remember an old gardener of the name of Moscrop, who died about thirty years ago, at the age of perhaps eighty, who used to tell of what his father had told him as happening to him, when a boy, relative to these wild cattle; which were then spoken of as wild cattle, and with the same sort of curiosity as exists with regard to them at the present day. In my father and grandfather's time we know that the same obscurity as to their origin prevailed; and if we suppose (as was no doubt the case) that there were old persons in their time capable of carrying back their recollections to the conversation still antecedent to them, this enables us at once to look back to a very considerable period, during which no greater knowledge existed as to their origin than at the present period. It is fair, however, to say, that I know of no

document in which they are mentioned at any past period. Any reasoning, however, that might be built on their not being so noticed, would equally apply to the want of evidence of that which would be more easily remembered or recollected—the fact of their recent introduction. The probability is, that they were the ancient breed of the island, inclosed long since within the boundary of the park. Sir Walter Scott rather particularly supposes that they are the descendants of those which inhabited the Great Caledonian Forest, extending from the Tweed to Glasgow, at the two extremities of which, namely, Chillingham and Hamilton, they are found. His lines in the ballad ‘Cadyow Castle’ describe them pretty accurately at the present day :—

‘ Mightiest of all the beasts of chace  
That roam o’er woody Caledon,  
Crushing the forest in his race,  
The mountain bull comes thundering on :  
Fierce on the hunter’s quivered band  
He rolls his eye of swarthy glow,  
Spurns with black hoof and horns the sand,  
And tosses high his mane of snow.’

“ I must observe, however, that those of Hamilton, if ever they were of the same breed, have much degenerated.

“ The park of Chillingham is a very ancient one. By a copy of the endowment of the vicarage, extracted from the records at Durham, and referring to a period certainly as early as the reign of King John, about which time, viz. 1220, the church of Chillingham was built, the vicar of Chillingham was, by an agreement with Robert de Muschamp, to be allowed as much timber as he wanted for repairs, of the best oak out of the Great Wood of Chillingham, the remains of which were extant in the time of my grandfather. The more ancient part of the castle also appears to have been built in the next reign, that of Henry III., since which it has been held, without interruption, by the family of Grey. At what period, or by what process, the park became inclosed, it is impossible to say ; but it was closely bounded by the domains of the Percies on the one side, and by the Hibburnes on the other, the latter of whom had been seated there since the time of King John ; and as the chief branch of the Greys always made Chillingham their principal residence, until it passed into the hands of Lord Ossulston, by his marriage with the daughter and heiress of Ford Lord Grey, it is reasonable to suppose that, in order to secure their cattle, wild and tame, they had recourse to an inclosure probably at an early period. It is said there are some other places in which a similar breed is found : Lyme Park, in Cheshire ; Hamilton, as I before mentioned ; and Chartley Park (Lord Ferrers). The first I have not seen, but they are described as of a different colour, and different in every respect. Those at Hamilton, or rather Chatelherault, I have seen, and they in no degree resemble those at Chillingham. They have no beauty, no marks of high breeding, no wild habits, being kept, when I saw them, in a sort of paddock ; and I could hear no history or tradition about them, which entitled them to be called wild cattle. Those at Chartley Park, on the contrary, closely resemble ours in every particular ; in their colour, except some small difference in the colour of their ears—their size—general appearance : and, as well as I could collect, in their habits. This was a very ancient park, belonging formerly to Devereux, Earl of Essex, who built the bridge on the Trent, to communicate with his chace at Channock, and Beaudesert, then belonging to him ; and the belief is, that these cattle had been there from time immemorial. With respect to their habits, it is probable that you will learn more from Cole, who has now been park-keeper at Chillingham for many years, than from any information I can give. I can mention, however, some particulars. They have, in the first place, pre-eminently, all the characteristics of wild animals, with some peculiarities that are sometimes very curious and amusing. They hide their young, feed in the night, basking or sleeping during the day ; they are fierce when pressed, but, generally speaking, very timorous, moving off on the appearance of any one, even at a great distance. Yet this varies very much in different seasons of the year, according to the manner in which they are approached. In summer, I have been for several weeks at a time without getting a sight of them,—they, on the slightest appearance of any one, retiring into a wood, which serves them as a sanctuary. On the other hand, in winter, when coming down for food into the inner park, and being in contact with the people, they will let you almost come among them, particularly if on



horseback. But then they have also a thousand peculiarities. They will be feeding sometimes quietly, when if any one appear suddenly near them—particularly coming down the wind, they will be struck with a sudden panic, and gallop off, running one after another, and never stopping till they get into their sanctuary. It is observable of them as of red deer, that they have a peculiar faculty of taking advantage of the irregularities of the ground, so that, on being disturbed, they may traverse the whole park, and yet you hardly get a sight of them. Their usual mode of retreat is to get up slowly, set off in a walk, then a trot, and seldom begin to gallop till they have put the ground between you and them in the manner that I have described. In form, they are beautifully shaped, short legs, straight back, horns of a very fine texture, thin skin, so that some of the bulls appear of a cream colour; and they have a peculiar cry, more like that of a wild beast than that of ordinary cattle. With all the marks of high breeding, they have also some of its defects. They are bad breeders, and are much subject to the *rush*, a complaint common to animals bred in and in, which is unquestionably the case with these as long as we have any account of them. When they come down into the lower part of the park, which they do at stated hours, they move like a regiment of cavalry, in single files, the bulls leading the van, as in retreat it is the bulls that bring up the rear. Lord Ossulston was witness to a curious way in which they took possession, as it were, of some new pasture recently laid open to them. It was in the evening about sunset. They began by lining the front of a small wood, which seemed quite alive with them, when all of a sudden they made a dash forward altogether in a line, and charging close by him across the plain, they then spread out, and after a little time began feeding. Of their tenacity of life the following is an instance. An old bull being to be killed, one of the keepers had proceeded to separate him from the rest of the herd, which were feeding in the outer park. This the bull resenting, and having been frustrated in several attempts to join them by the keeper's interposing, (the latter doing it incautiously,) the bull made a rush at him and got him down; he then tossed him three several times, and afterwards knelt down upon him, and broke several of his ribs. There being no other person present but a boy, the only assistance that could be given him was, by letting loose a deer-hound belonging to Lord Ossulston, who immediately attacked the bull, and by biting his heels drew him off the man, and eventually saved his life. The bull, however, never left the keeper, but kept continually watching and returning to him, giving him a toss from time to time. In this state of things, and while the dog with singular sagacity and courage was holding the bull at bay, a messenger came up to the castle, when all the gentlemen came out with their rifles, and commenced a fire upon the bull, principally by a steady good marksman from behind a fence at the distance of twenty-five yards; but it was not till six or seven balls had actually entered the head of the animal, (one of them passing in at the eye,) that he at last fell. During the whole time he never flinched nor changed his ground, merely shaking his head as he received the several shots. Many more stories might be told of hair-breadth escapes, accidents of sundry kinds, and an endless variety of peculiar habits observable in these animals, as more or less in all animals existing in a wild state: but I think I have recapitulated nearly all that my memory suggests to me as most deserving of notice; and will only add, that if you continue in the intention of preparing a paper to be read before the approaching Scientific Association at Newcastle, on this subject, you are welcome to append this letter to it, as containing all the information I am able to give.

I have the pleasure, &c.,

TANKERVILLE."

"To L. Hindmarsh, Esq."

In addition to this letter, Mr. Hindmarsh communicated some information, collected from Mr. Cole, the keeper, and from his own observation. There are about eighty in the herd, comprising twenty-five bulls, forty cows, and fifteen steers, of various ages. The eyes, eyelashes, and tips of the horns alone are black, the muzzle is brown, and the inside of the ears red or brown, and all the rest of the animal white. Even the bulls have no manes, but a little coarse hair on their neck. They fight for supremacy, until a few of the most powerful subdue the others, and the mastery is no longer disputed. When two bulls are separated by accident, they fight when they meet, although friendly before, and do so till they become friends again. The cows commence breeding at three years old; the calves suckle nine months; they conceal their calves for a week or ten days after they are born, suckling them two or three times a day. The late Mr. Bailey, of Chillingham, found a calf, two or



three days old, very poor and weak. On stroking it, it retired a few paces, and then bolted at him with all its force; he stepped out of its way, and it fell down, when the whole flock came to its rescue, and forced him to retreat, being a strong fact in support of the opinion of their natural wildness. They do not often die from disease, but they are seldom allowed to live more than eight or nine years, at which period "they begin to go back." When slaughtered, they weigh from thirty-eight to forty-two stones. One was caught and kept, and became as tame as the domestic ox, and thrived as well as any short-horned steer could do, and in its prime was computed to weigh sixty-five stones. They are shy in summer, but tame in winter, and will eat hay from a fold, although they will not taste turnips. When one of the herd becomes weak or feeble, the rest set upon it, and gore it to death. At the end of the last century, similar cattle existed at Burton Constable, Yorkshire, and at Dunleary in Dumfries-shire, but these are now extinct. From the absence of all recent notice of these animals, there appears to be little doubt but they are genuine descendants of the wild cattle of the ancient Caledonian forests. The author then quoted a passage from Boetius, which, allowing for a little colouring, described these animals very well, except in the non-existence of a mane. The cattle at Dunleary had black ears, but in all other points resemble those of Chillingham; and this may be accounted for by a statement of Bewick, that about forty years ago some of the animals had black ears at Chillingham, and were shot by the keeper. On the whole, the author was inclined to think these animals the survivors of the Caledonian cattle which undoubtedly extended through the northern provinces of England; and that, under the protection of the owners of Chillingham, they had escaped the general destruction dependent on the advancement of civilisation, &c. in the country.

In the Geographical Section, Sir George Back, having taken the chair, said, that most of the papers on geographical subjects which had been read, had chiefly referred to voyages in the northern regions; and though all had not been there accomplished that might be wished, yet enough had been done to attract the admiration and stimulate the attention of other nations to similar enterprises. He regretted, however, to say, that the same remark would not apply towards the South Pole; an immense space there remains unexplored, which he now briefly mentioned in order to introduce the following account:—

"On the Recent Expeditions to the Antarctic Seas," by Captain Washington, R.N.

This paper was illustrated by a South Circumpolar Chart on a large scale, showing the tracks of all former navigators to these seas, from Dirk Gheritz in 1599, to M. D'Urville, in 1838, including those of Tasman, in 1642; Cook, in 1773; Bellingshausen, in 1820; Weddell, in 1822; Biscoe, in 1831: and exhibiting a vast basin, nearly equal in extent to the Atlantic Ocean, unexplored by any ship, British or Foreign. The writer pointed out that the ice in these regions was far from stationary; that Bellingshausen had sailed through a large space within the parallel of sixty degrees, where Biscoe found ice that he could not penetrate. That where D'Urville had lately found barriers of field-ice, Weddell, in 1823, had advanced without difficulty to the latitude of seventy-four and a quarter degrees, or within sixteen degrees of the pole; and that it was evident from the accounts of all former navigators, that there was no physical obstacle to reaching a high south latitude, or, at any rate, of ascertaining those spots which theory pointed out as the positions where, with any degree of probability, the southern magnetic poles will be found. The paper also mentioned the expedition to the South Seas which has just left this country, fitted out by several merchants, but chiefly under the direction of that spirited individual, Mr. Enderby, whose orders were to proceed in search of southern land, and to endeavour to attain as high a south latitude as practicable; and concluded with an earnest appeal to the British Association, that the glorious work of discovery, begun by our distinguished countryman Cook, might not be left incomplete; that all Europe looked to this country to solve the problem of Terrestrial Magnetism in the southern hemisphere; and that all civilised nations would unanimously point to that individual who has already planted the "red cross of England" on one of the northern magnetic poles, as the officer best fitted to be the leader of an expedition sent out for such a purpose. "Under a deep and abiding conviction," said the author, "that our country's future glory is identified with the encouragement of British enterprise, and that she would lose her high national character by ceding to another this opportunity of completing the work first traced out by Cook, I could

not refrain from recording my sentiments, and conclude with the ardent hope that through the exertions of the British Association our wishes may be realised, and that ere long the southern cross may shine over an expedition sailing to the Polar seas; that cross sung by Dante and Camoens of old, which has served as a banner in a far more sacred cause; that cross, which, by its positions, points out the hour of night to the Indian wandering over the pathless desert of Atacama, or the mariner ploughing the trackless ocean; that cross which brightly shone over Diaz, and Columbus, and Vasco de Gama; and that cross which I earnestly trust will once again shine over 'the meteor flag of England,' proudly waving over Antarctic land, discovered by the zeal and intrepidity of British seamen."

Sir George Back said—The account you have just heard combines so much of the main points of the most striking events of past enterprises,—that little more seems left for me to say, than to acquiesce, which I most cordially do, in the concluding hope expressed by the writer. We have heard, from the testimony of former navigators, that there is no physical impossibility to prevent an approach towards the southern pole; and though M. D'Urville, with the *Astrolabe* and *Zélée*, has been compelled to return to the Bay of Conception, after a navigation of fifty-two days among ice; yet, had his crew been in good health, and had his means allowed him to have remained out longer, it is not improbable that some of those extraordinary movements of the ice—which he had himself so lately experienced—might have occurred, and have opened a passage to enable him to put in execution his cherished plan. That it was not so, might have been regretted, had we not an officer,—and why should he not mention his name?—Captain James Ross—who was both ready and willing, and in every way qualified, to command in so patriotic an enterprise. He, too, would accomplish those great objects which science has in view, the establishing of the curves of magnetic dip, intensity, and variation; yet these would form but a part of the advantages which we might expect to derive from a voyage which would seem to be the birthright and the duty of a nation so essentially maritime as Great Britain. I have, therefore, (said the chairman,) only to add my sincere wish that the expression of feeling manifested by this meeting may have its weight in recommending, in the proper quarter, the speedy equipment of an antarctic expedition.—Mr. Murchison said, that he gladly embraced the opportunity of expressing his cordial concurrence in the object of the paper which had just been read; and he felt certain, that if the British Association would recommend this subject with all the weight which from their station they were entitled to do, the great object of Antarctic discovery would be no longer delayed.

In the Mechanical Section, the President, Mr. Babbage, observed that the next subject which would be brought before the Section, was on the modes of traversing the ocean by means of vessels propelled by steam: and he hoped that whatever difference of opinion might be found to exist, he should not have to witness a departure from the tone and temper which had characterised their previous discussions. If any opinions had been expressed which subsequent experience had shown to be erroneous, the acknowledgment of that error was a triumph to knowledge.

"On Steam Navigation and a self-recording Steam Journal," by Dr. Lardner.

Dr. Lardner said—No one could be more deeply impressed with the importance of the observations which had just fallen from the president than he was; and there was not any member of the Association more willing to admit the error into which he had fallen than he should be found to be. It was, however, a matter of no real importance how far any opinion which he might have formerly expressed on extended steam navigation was right or wrong, except so far as it had been made a personal question. The subject was first broached at the Bristol Meeting of the British Association, when a discussion arose upon it, and he then remarked, that it was a great experiment which had not yet been attended with any satisfactory result. Unquestionably he did express a discouraging or unfavourable opinion as far as regarded the probability of ever maintaining an unbroken intercourse by means of steam navigation between Great Britain and New York. But he had been charged with declaring that the transit by steam navigation between Great Britain and New York was a physical impossibility. He never had given expression to such a statement, or to anything equivalent to it; and, as a proof, he read a passage from the article on Steam Navigation which appeared in the "Edinburgh Review" soon after the Bristol meeting, and which expressed the opinions he then held. He must, however, now acknowledge that the success of the "Great Western" steam-ship



had shaken the opinions he then entertained, and should the same success continue throughout the various seasons of the year, he would be the first to come forward and acknowledge himself in error. Dr. Lardner then proceeded to the proper subject before the Section, namely, the duty of marine engines, for ascertaining which a sum of money had been last year granted by the Association. He had been in communication with many steam navigation companies, and found that it would be a hopeless task to attempt to get the men on board the vessels to register with accuracy all the various facts required to be registered. He had consequently considered how this might be done by machinery, and the result was the construction of the instrument before them, and which he termed a steam journal. By this he proposed to register every five minutes the following varying phenomena, on which the efficiency and performance of steam-engines depend:—the pressure of the steam between the slides and the steam valve—the pressure in the boiler—the vacuum and the quantity of water in the boilers—the saltness of the water in the boilers—the velocity of the paddle-wheels—the draft of the vessel—the trim of the vessel—the rate of the vessel—the course of the vessel—the apparent force of the wind—the apparent direction of the wind. All these, excepting the course of the vessel, it is intended to register by self-acting mechanism. The methods by which this was proposed to be effected he then explained by reference to detailed drawings.

“On Steam Navigation,” by Mr. J. Russell.

The object of this communication was to endeavour to point out the means which might be attempted, with the greatest probability of success, for improving steam navigation. It was of importance to consider whether they should look to some new and as yet untried method, or to improved combinations of the means already in common use. The latter was the better course; and these improvements might be in the vessel itself, in the machinery, or in the nature and application of the fuel. Mr. Russell then adverted to the fallacy of maintaining, as some persons did, that the form of the vessel was alone to be considered, while others held the directly contrary opinion, that an increase of power alone was to be considered. Mr. Russell, however, thought that, in the present state of steam navigation, the opinions of the former were most to be attended to. With reference to these questions, two great experiments had, he said, been made. Two fifty-horse-power engines had been taken out of a vessel, and two sixty-horse-power engines put in their place. When the propelling power was two fifties, the velocity of the vessel was ten miles and three-quarters per hour. When it was two sixties, the velocity with which the vessel moved was ten miles and six-tenths per hour. Here then was an increase of power, a greater expenditure of fuel, and the increase of the velocity was only three-tenths of a mile. Another experiment was made on two vessels, one of 450 tons and the other of 500 tons burthen. The larger vessel was propelled by two engines of 300 horse power, and the smaller one by two of 150 horse power. The larger vessel, with the double power, proceeded at the rate of nine miles and a-half an hour, whilst the smaller one moved at the rate of nine miles and a quarter an hour. This instance he thought extremely satisfactory; the smaller vessel had the proper form that a vessel should have, and the larger one had not. He was therefore of opinion, that the form of the vessel was the direction in which we should look for improvement. Indeed he thought it probable that ere long we should have vessels of double the length, for a given breadth, that they at present generally are. The objection to an increased length, from the danger of what is called “breaking the back,” might be in a great measure removed by a proper system of diagonal framing. Another important consideration is, that the linear dimensions of a vessel being doubled, the capacity is increased eight-fold, but the increase in the resistance need not be more than twofold.

A paper was read, on “Methods of Filtering Water,” by J. T. Hawkins.

In this paper the author detailed the various essentials for a durable and simple filter for obtaining pure water. The charcoal must be perfectly well burnt, and kept from exposure to the atmosphere; a test of good charcoal is, that when pulverised it sinks rapidly in water. The charcoal must be supported on an indestructible material, as a plate of burnt clay perforated with holes. The filter may consist of a common gardenpot, or similar vessel with holes at the bottom. The lower part may be filled with round pebbles, then some smaller pebbles, then some coarse sand, and finally a stratum of pounded charcoal, of about three or four inches in thickness. It is a great mistake to put any material, as sand, above the charcoal, with the view of



arresting the grosser particles of impurity, as the sand will quickly stop up and be impervious to water. A filter thus prepared will render water perfectly clear and sweet for many years.

The Rev. F. W. Hope read a paper "On Noxious Insects occurring in the year 1838, more particularly the *Tipula tritici* of Kirby."

The author commenced his observations on the *apple blight*. In this year apple trees have chiefly suffered from the attacks of two insects; one is a beetle (*Anthonomus pomorum*,) which attacks the blossoms in bud, and prevents the fruit from what is called "setting." It is well known to entomologists, and the author hopes shortly to give its history to the world with illustrations. The second is the *Aphis*, or plant-louse, which is this year exceedingly abundant. The apple, the hop, and the wheat, have suffered from it. The author would not describe these insects, as they are so well known, but made the following observations:—When vegetation in spring has made considerable advances, and the weather becomes wet and uncongenial, then Aphides appear in greatest abundance. He attributes the great abundance of Aphides this year to the cold. He was anxious to ascertain if Aphides are more abundant in some soils than others, and solicited information on this point. In 1829 the Aphides were succeeded by the Coccinelidæ: is this usual? The Aphides on the wheat this year are more abundant on the spring than the autumn sown wheat, and (near Cheltenham) more numerous on bearded wheat. *Tipula tritici* is observed to be abundant in some districts. The pupa and chysalides are not so numerous as in former years, but the caterpillars are very abundant; and the wheat appears more damaged by Aphides than *Tipulæ*. The author then alluded to the kind of information wanted in these inquiries, with regard to soil, atmosphere, cultivation, and varieties of wheat, which might be supplied by the agriculturist; and regretted that there was not an Agricultural Section in the Association. He then hoped botanists would supply information:—1. On the species and varieties of wheat grown in this country; 2. Diseases of wheat arising from parasitic fungi and other causes; 3. The provincial and local names of the kinds of wheat. In conclusion, he suggested that a committee of the British Association, consisting of botanists, entomologists, and agriculturists, should be formed, in order to investigate the diseases incident to wheat, and other kinds of agricultural produce.

Prof. Graham observed, that this subject was of great commercial as well as scientific interest. The increase of destructive insects this year had been very great. What was the reason? It could not be the cold winter that produced them on wheat, for the spring-sown wheat had been most affected. We wanted a collection of facts on this subject, in order to deduce something like general principles. He had seen a large collection of drawings formed by Sir Joseph Banks, from the inimitable pencil of Francis Bauer, representing the various insects that destroy or injure plants. He thought this Association could not do better than assist in publishing these drawings, which would greatly promote our knowledge of this subject.—Dr. Greville remarked, that many Aphides which were abundant last year were scarce this, and *vice versâ*.—Sir C. Monk had observed the attacks of certain insects to be periodical, and detailed some facts in illustration.—A member observed, that the rate of growth of a plant affected its liability to the attacks of insects. If they grew fast, the insects could no longer remain on the growing point of the plant, and thus were prevented doing much injury.—Mr. Richard Taylor confirmed this opinion.—The Rev. Mr. Hope thought the weather made little difference in the appearance of these insects. Where vegetation makes sudden strides, the *Aphis* is frequently abundant. But if, at the same time, the plant was healthy, the *Aphis* did not prosper.

Dr. Richardson then exhibited four species of Pouch Rats, and he was aware of the existence of two more. They were usually looked upon as the same species.

Dr. Bowring communicated some observations on Plague and Quarantine, made during his residence in the East.

Dr. Bowring apologised for coming before the Section, he not being a medical man; but having travelled in the East for the purpose of observation in reference to our commercial relations, his attention had been naturally directed to the subjects of plague and quarantine—subjects the importance of which could hardly be overrated, many millions being annually lost to this country from quarantine regulations. The results of his observation had produced a strong conviction of the non-contagion of plague; and he thought it right, therefore, to lay before this Section a few remarks on the subject. He alluded to the very secondary character of the

facts on which the prevalent opinions were founded. Some were so absurd as not to be worthy of the slightest attention: such as plague being introduced at Leghorn, by the unrolling of a mummy that had been buried for two thousand years,—at Constantinople by the wing of a bird having touched a kite which a boy was flying from a house-top,—from a cat having been seen to jump into a basket in which were some clothes, from which the disease was subsequently caught. Dr. Bowring said, that physicians residing in the East were rapidly changing their opinions on the subject, but they were prevented in many instances from freely expressing them by the interested Boards of Health, who neither liked to part with their extensive power, (even of life and death,) nor with their salaries. Clot Bey was a decided anti-contagionist, and that after an experience of eight or ten thousand cases.—Dr. Bowring mentioned many cases where facts were distorted, or invented to account for cases of plague from contagion; and in one remarkable instance, where the misrepresentations were exposed, it was denied that the case was plague at all, because they could not maintain their assertion of contact having taken place. The Mussulmans are by their religion non-contagionists, and Dr. B. hoped they might never become otherwise, as the aggravation of the calamity would be tenfold if they did. The opinion as to the contagious nature of the disease prevailed principally amongst the Levantines and Franks; but every other superstition was as readily believed by them. He had collected the most solemnly attested evidence of the appearance of Peris and Genii, and of the intermarriages of the former with mortals; he had collected more strongly-attested facts on these subjects, than on the contagious nature of plague. Dr. Bowring asserted that, from innumerable instances, quarantine appeared to give no security, and was of opinion that these establishments were mere political engines, of great power and convenience in a despotic country. In the lazarettos the whole correspondence of the East was read. The Russians had a most perfect system of quarantine, yet the plague got into Odessa. In 1831 quarantine and lazaretto establishments were introduced into Egypt under the superintendence of the Consuls, yet the plague got into Egypt. In Jaffa it broke out in the house of the Russian Consul spontaneously, and in Jerusalem in a convent, with which there could have been no communication. In the lazarettos a little disease was made a great of; in one instance a greater number died from dysentery than from plague. Lazarettos, he contended, rather increased than diminished the evil. If a strict separation could insure safety, the Pacha's harem would escape; yet in 1835, seven died there of plague. It appeared at one time in Old Cairo, and not in New, and *vice versa*, although there was constant communication; the same was true as to Cairo and Alexandria. The disease never penetrated Nubia, though constantly on the borders, and frequent intercourse taking place. In Cairo, on one occasion, four hundred or five hundred houses, whose inhabitants had all perished, were subsequently opened, the linen and clothes in them sold in the marketplace, without any cases of plague resulting. Clot Bey had again and again inoculated himself without producing the disease. Dr. Boulard wore the clothes of a patient, who died of the disease, for twenty-four hours, without catching it. The following information was communicated to Dr. Bowring, by a physician of long experience, in answer to a series of direct queries, viz. that it is indigenous in Egypt, never entirely absent, never imported, that it frequently occurs spontaneously, that cordons afford no security, that contact very frequently did not produce it, and that the most cautious frequently suffered from it, that free ventilation was effective in checking the disease; that it was not produced by linen which had been exposed to the infection, and that when a number of person exposed to its influence removed from the spot, the mortality became much diminished. Dr. Bowring concluded by expressing his own strong conviction on the subject; but he had no object but to promote the discovery of truth, which could only be done by patient and serious inquiry, and by evidence of a primary character.

At the close of the meeting it was arranged that the Association should assemble next year at Birmingham, in the month of August.